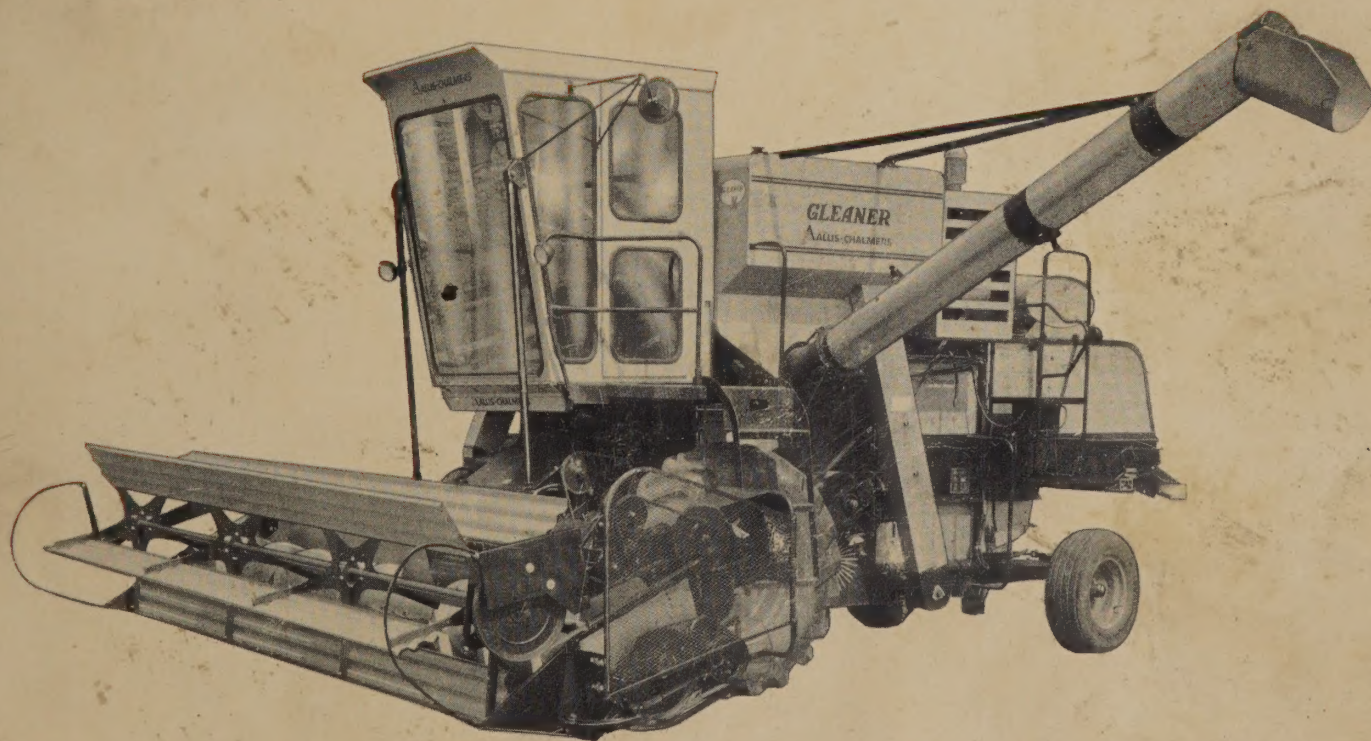




OPERATOR'S MANUAL

GLENER **K**

Self-propelled Combine



DEALERS PRE-DELIVERY SERVICE

Model K Self-propelled GLEANER Combine

FIRM NAME _____ COMBINE SERIAL # _____
ADDRESS _____ HEADER SERIAL # _____
PHONE _____ DATE DELIVERED _____

**THE FOLLOWING PRE-DELIVERY SERVICE HAS BEEN COMPLETED WHEN CHECK
APPEARS IN BOX OPPOSITE ITEM.**

- ☐ 1. LUBRICATED — PROPER COOLANT INSTALLED (Permanent Anti-freeze)
- ☐ 2. OIL LEVEL IN TRANSMISSION, DIFFERENTIAL, FINAL DRIVE AND CRANKCASE
- ☐ 3. RADDLE & ELEVATOR CHAINS ADJUSTED
- ☐ 4. SICKLE TIMED
- ☐ 5. SLIP CLUTCHES CHECKED FOR OPERATION
- ☐ 6. CYLINDER BAR ATTACHING CAPSCREWS
- ☐ 7. DRIVE CHAINS AND BELTS ADJUSTED, CHECKED FOR TIGHTNESS
- ☐ 8. ENGINE RUN ONE HOUR
- ☐ 9. SEPARATOR CLUTCH ADJUSTMENT CHECKED
- ☐ 10. COMBINE OPERATED ONE HOUR
- ☐

★ ★ ★

YOUR GLEANER COMBINE HAS BEEN SET UP, ADJUSTED AND SERVICED BY DEALER PRIOR TO ITS DELIVERY TO YOU.

YOU ARE REQUESTED TO ADVISE DEALER WHEN THIS MACHINE WILL START TO WORK SO DEALER REPRESENTATIVE CAN BE ON HAND TO MAKE NECESSARY FIELD ADJUSTMENTS AND HELP YOU GET STARTED RIGHT.

DELIVERY RECORD

Model K Self-propelled CLEANER Combine

THIS FORM MUST BE FILLED OUT, IN TRIPLICATE, BY THE DEALER AND SIGNED BY THE CUSTOMER AT TIME UNIT IS DELIVERED.

DELIVERED TO _____ DEALER _____
R. R. # _____ BOX # _____ TOWN _____
TOWN _____ HEADER SERIAL # _____
STATE _____ COMBINE SERIAL # _____
PHONE _____ SERVICED BY _____

EXPLAIN CARE, SAFE OPERATION AND ADJUSTMENTS OF ITEMS LISTED BELOW:

- ☐ 1. COOLANT — REPLACING AND FLUSHING
- ☐ 2. BATTERY — WATER LEVEL
- ☐ 3. OIL LEVEL AND TYPE
- ☐ 4. TIRE PRESSURE

Size	Code	Ply	Pressure
14.9/13 x 26	R-1	6	22
16.9/14 x 26	R-1	6	20
16.9/14 x 26	R-3	6	20
14.9/13 x 26	R-2-0	8	28
18.4/15 x 26	R-1	6	20
18.4/15-26	R-3	6	20
18.4/15-26	R-2-0	6	20
6.00 x 16	I-1	4	32
7.50 x 16	I-1	4	24
7.50 x 16	F-1	6	36
7.50 x 16	F-2	4	24

- ☐ 7. OIL QUANTITY AND TYPE
DIFFERENTIAL — SAE 90 EP
TRANSMISSION — SAE 90 EP
FINAL DRIVE — SAE 90 EP
- ☐ 8. HYDRAULIC OIL QUANTITY AND TYPE — TYPE A
AUTOMATIC TRANSMISSION OR DEXRON
- ☐ 9. GOVERNOR AND LINKAGE
- ☐ 10. AIR CLEANER SERVICE
- ☐ 11. SICKLE TIMING — CARE OF SICKLE AND GUARDS
- ☐ 12. CYLINDER BARS — CYLINDER LEVELING GAUGES
- ☐ 13. RADDLE AND ELEVATOR CHAINS
- ☐ 14. DRIVE BELTS AND CHAINS
- ☐ 15. VARIABLE SPEED OPERATION AND CARE
- ☐ 16. HEADER LIFT SAFETY STOP
- ☐ 17. OPERATOR'S MANUAL DELIVERED TO OWNER AND HE
HAS BEEN INSTRUCTED AS TO ITS CONTENTS

- ☐ 5. WHEEL NUTS
- ☐ 6. CYLINDER BAR ATTACHING CAPSCREWS

THIS MACHINE HAS BEEN DELIVERED TO ME IN GOOD CONDITION AND I HAVE BEEN INSTRUCTED IN ITS CARE, ADJUSTMENT AND SAFE OPERATING PRACTICES.

DELIVERED BY _____
Dealer

BY _____
Date

OWNER
OPERATOR _____
Signature



BE CAREFUL

1. KEEP ALL SHIELDS IN PLACE.
2. STOP MACHINE TO ADJUST AND OIL.
3. WHEN MECHANISM BECOMES CLOGGED, DISENGAGE POWER BEFORE CLEANING.
4. KEEP HANDS, FEET AND CLOTHING AWAY FROM POWER-DRIVEN PARTS.
5. KEEP OFF IMPLEMENT UNLESS SEAT OR PLATFORM IS PROVIDED. KEEP OTHERS OFF.

BE A SAFE OPERATOR

AVOID ACCIDENTS

Most accidents, whether they occur in industry, on the farm, at home, or on the highway, are caused by the failure of some individual to follow simple and fundamental safety rules or precautions. For this reason most accidents can be prevented by recognizing the real cause and doing something about it before the accident occurs.

Regardless of the care used in the design and construction of any type of equipment, there are many conditions that can not be completely safe guarded against without interfering with reasonable accessibility and efficient operation.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT.

THE COMPLETE OBSERVANCE OF ONE SIMPLE RULE WOULD PREVENT MANY THOUSAND SERIOUS INJURIES EACH YEAR. THAT RULE IS:

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18.4/15-26	R-2-0	6	20
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7.50 x 16	I-1	4	24
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DELIVERED BY _____
Dealer

BY _____ OWNER
Date OPERATOR Signature



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Dealer

BY _____
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OWNER
OPERATOR _____
Signature



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TO OUR CUSTOMER

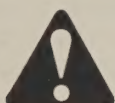
The following pages and illustrations are printed to help supply you with the knowledge to better operate and service your new Allis-Chalmers equipment.

We are proud to have you as a customer and feel you will be proud to be an Allis-Chalmers owner.

Any piece of equipment needs and must have a certain amount of service and maintenance to keep it in top running condition. We have attempted to cover all the adjustments required to fit most conditions; however, there may be times when special care must be taken to fit a condition.

Study your manual carefully and become acquainted with all the adjustments and operating procedures before attempting to operate your new equipment. Remember, it is a machine and has been designed and tested to do an efficient job in most operating conditions and will perform in relation to the service it receives.

If at any time special attention is required for some conditions, ask your Allis-Chalmers dealer; his Parts and Service Organization will be glad to help and answer any questions on operation and service of your new machine.



**ATTENTION! BECOME ALERT!
YOUR SAFETY IS INVOLVED!**



This symbol is used to call your attention to safety precautions that should be followed by the operator to avoid accidents. When you see this emblem - Heed Its Warning.

WARRANTY

ALLIS-CHALMERS MANUFACTURING COMPANY (the Company) warrants its new machinery covered by this order or contract (excluding tires and B-Series engines and engine accessories which are warranted by the respective manufacturers only) to be free of defects in workmanship and material at the time of shipment from the Company's factory.

This warranty is the only warranty upon which the Company's new machinery is sold. NO OTHER WARRANTY SHALL BE IMPLIED AND ALL STATUTORY WARRANTIES SHALL BE DEEMED WAIVED. No warranty of any kind, statutory, implied, or otherwise, is made with respect to second-hand machinery or with respect to new machinery which, after shipment from the Company's factory, has been altered, repaired or treated in any manner whatsoever.

The Company will repair or replace f.o.b. its factory any part in its new machinery which under normal use fails within twelve months (except six months instead of twelve months in the case of products of the Springfield and Deerfield Works of the Company and engines sold as power units) from date of delivery of such machinery to the first user, provided that the Company is promptly notified thereof and that the part is returned to the Company or to an authorized dealer properly identified, charges prepaid, and is found to the satisfaction of the Company to have been defective in workmanship or material at the time of shipment of the machinery from the factory as aforesaid.

The Company's liability whether in contract or in tort arising out of warranties, representations, instructions, or defects from any cause shall be limited exclusively to repairing or replacing under the conditions as aforesaid.

No representative of the Company has authority to change this warranty and no attempt to repair or promise to repair or improve the machinery by any representative of the Company shall change or extend this warranty.

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SAFETY SUGGESTIONS



1. Do not work under Header without first blocking it and setting lock located on header lift ram.
2. Be sure everyone is clear of machine before starting.
3. Always stop combine engine when refueling. Do not smoke when filling tank.
4. Use handrails when getting on or off of combine. Do not get on or off combine while in motion.
5. Always be sure all shields and guards are in place.
6. Do not try to adjust or work on machine while it is running.
7. Keep operator's platform clean and free from obstructions.
8. Keep combine in gear when going down hills.
9. Keep engine free of chaff and straw to prevent starting fires.
10. Be sure gear shift lever is in neutral before starting engine.
11. Keep all belts and chains in alignment and at proper tensions.
12. Use extreme caution when removing radiator cap. Avoid pressurized steam that might be in radiator.
13. Don't let clothing come in contact with moving parts.
14. Always put the unloading auger in the transport position when moving the combine from one field to another.
15. Always lower Header to ground or block and lock it securely before disconnecting any part of the Hydraulic System.
16. Before leaving machine make sure parking brake is set.

Order all parts for your machine from your local "Allis-Chalmers" Dealer.

To assure proper operation, prevent damage and provide safety for the operator, bolts of various strength, in the same size, are needed in manufacturing machinery.

Some locations require the use of a soft bolt (shear type) and others need a bolt of high

tensile strength to assure proper performance.

With this in mind, it is essential that replacement hardware to be used as specified in Parts Book.

For your reference the following Chart gives the code appearing on head of bolt for identifying various grade bolts.

SAE Code on Head of Bolt	Grade	Quality
No Mark	2	Low carbon steel
	5	Med. carbon steel-tempered
	8	Med. carbon alloy steel-High strength



SAFETY RAM STOP

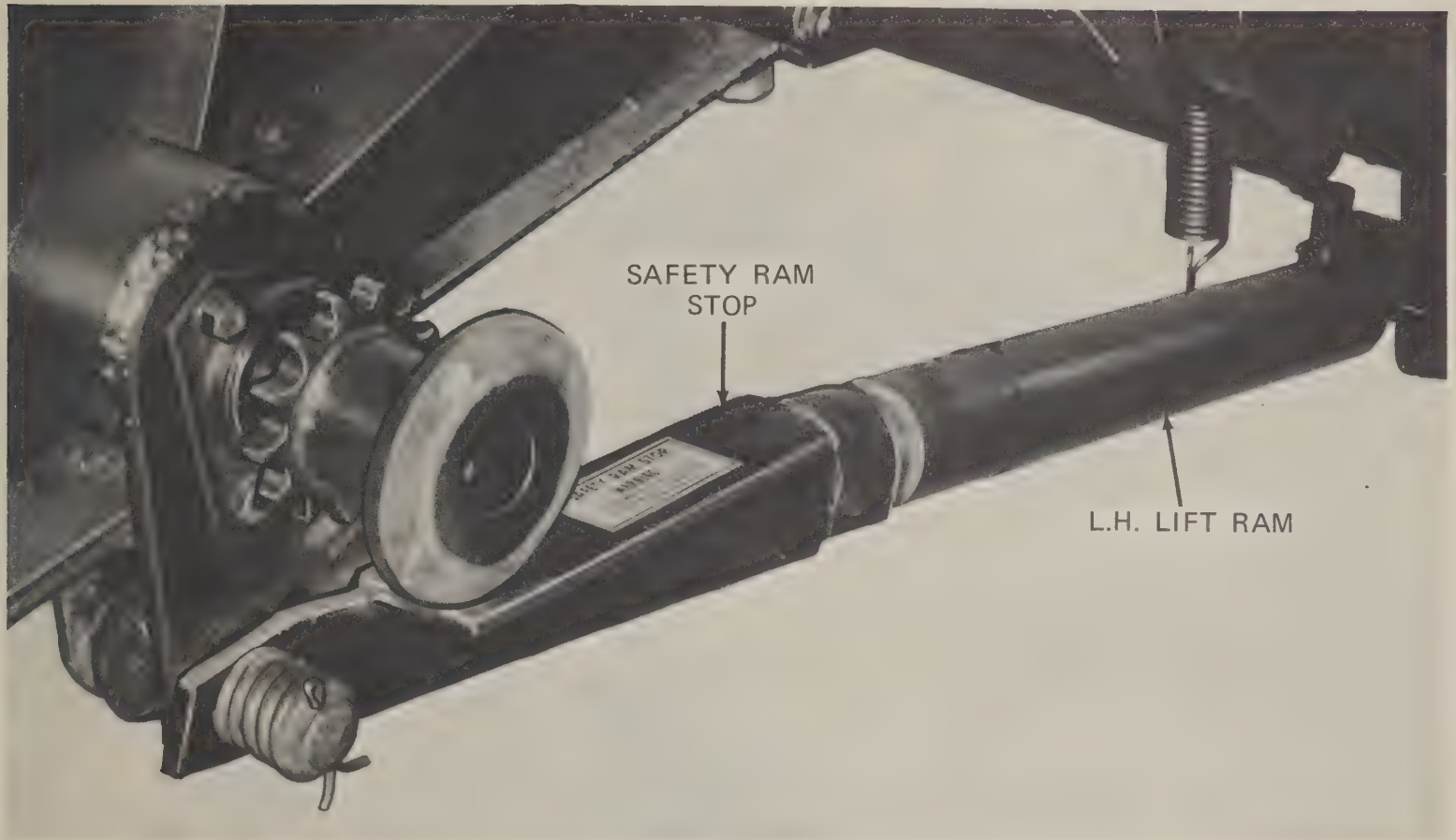


FIG. 1

Note the decal on top of the safety ram stop. Do not work below the unit unless the safety ram stop is placed down into position on the L.H. lift cylinder rod. The header must be raised to allow the safety ram stop to engage the L.H. lift cylinder.



DO NOT REMOVE ram stop from combine. Do not use it for transporting.

SPECIFICATIONS

STANDARD EQUIPMENT

Variable Speed Cylinder - Belt Drive -
1343 to 802 RPM
Cylinder Speed Control on Operator's
Platform
Cylinder Speed Range Indicator
Swing Down Concave
Safety Concave Door
Safety Concave Door Warning Light
Feeder Beater with Retractable Fingers
Independent Feeder Beater Drive
(3) Straw Walkers with Set-Back Plates
Two Fan Cleaning System
Adjustable Chaffer and Sieve
High Capacity Overshot Grain Elevator
Visual Tailings Return
(66) Bushel Grain Bin (Wing Type)
Folding Bin Unloader with Over-Center
Latches
6-Cylinder (250 cu. in. Displacement)
Gas Engine
Engine Hood and Grille
12-Volt Electrical System with Automatic
Circuit Breaker and Battery
42-Amp Alternator
2 Headlights, Tailight, Flashing Amber
Warning Light
3-Speed Automotive Type Transmission and
Hydraulic Variable Speed Control with
Ranges of .93 to 14.0 MPH
14.9-26 (6-Ply) R-1 Lug Type Drive Tires
on 12" Rims and 6:00 x 16 (4-Ply) I-1
Steering Tires
Folding Platform Ladder with Safety Latch
Parking Brake with Warning Light
L.H. Rear Ladder
Safety Shielding on Combine and Header
Variable Speed Cleaning Fan 699 to 336 RPM
Lower Cleaning Fan Shields
Hydraulic Oil Filter
SMV Emblem

OPTIONAL EQUIPMENT

Long Reel Support Arms
Slow Speed Auger Drive
Reel Bat Ends.
Cutter Bar Extensions
Maize Guards
Rock Guards
Cutter Bar Skids
Draper Pick-Up
V. S. Pick-Up Drive
Pick-Up Reel
Spike Tooth Cylinder
Rubber Bar Cylinder and Concave
Rasp Concaves
Slow Speed Chain Drive
Straw Chopper
Straw Spreader
Walker Warning Light
Corn Chaffer
Cleaning Screens
Stepped Pan Bottom
Air Flow Grain Saver
Adjustable Tailer
Over Bin Loader
Scourkleen
Dirt Removable Screens
Hydraulic Accumulator
Automatic Header Height Control
Tachometer
Mud Shields
Cab
Air Conditioning
Cab Tilt-Away
Hydrostatic Steering
Drive Tires
14.9/13-26 8-Ply R-20;
16.9/14-26 6-Ply R-1
16.9/14-26 6-Ply R-3;
18.4/15-26 6-Ply R-1
18.4/15-26 6-Ply R-3;
18.4/15-26 6-Ply R-2-0
Steering Tires
7:50-16 4-Ply I-1, 7:50-16 6-Ply F-1
7:50-16 4-Ply F-2

TURNING RADIUS 235"

HEADER

Size 10 ft. - 12 ft. - 13 ft. - 15 ft.
Cutting Range -5.5" to 38.8"
Cutting Range Control Hydraulic
Auger Diameter 20"

REEL

TYPE 5 Metal Bat
Height Control Mechanical
Speed Control Mechanical
Speeds30 to .48 RPM

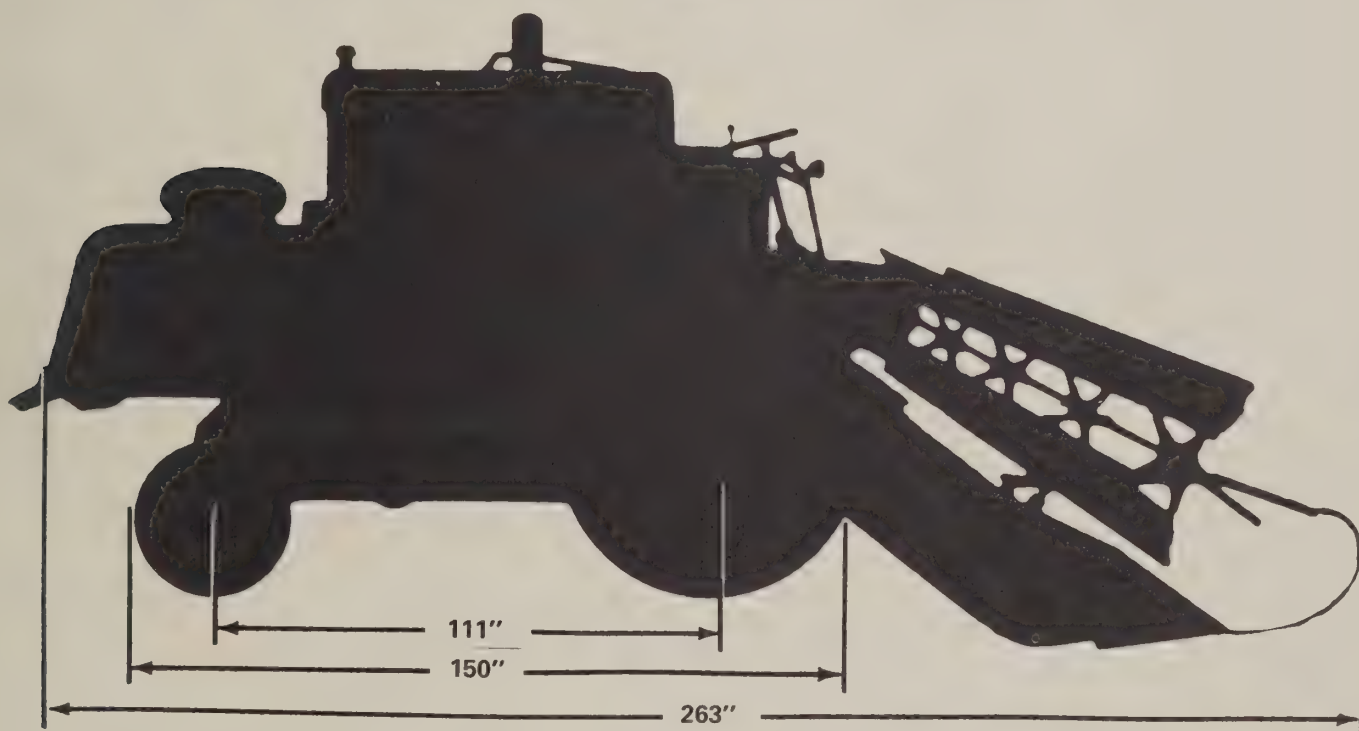
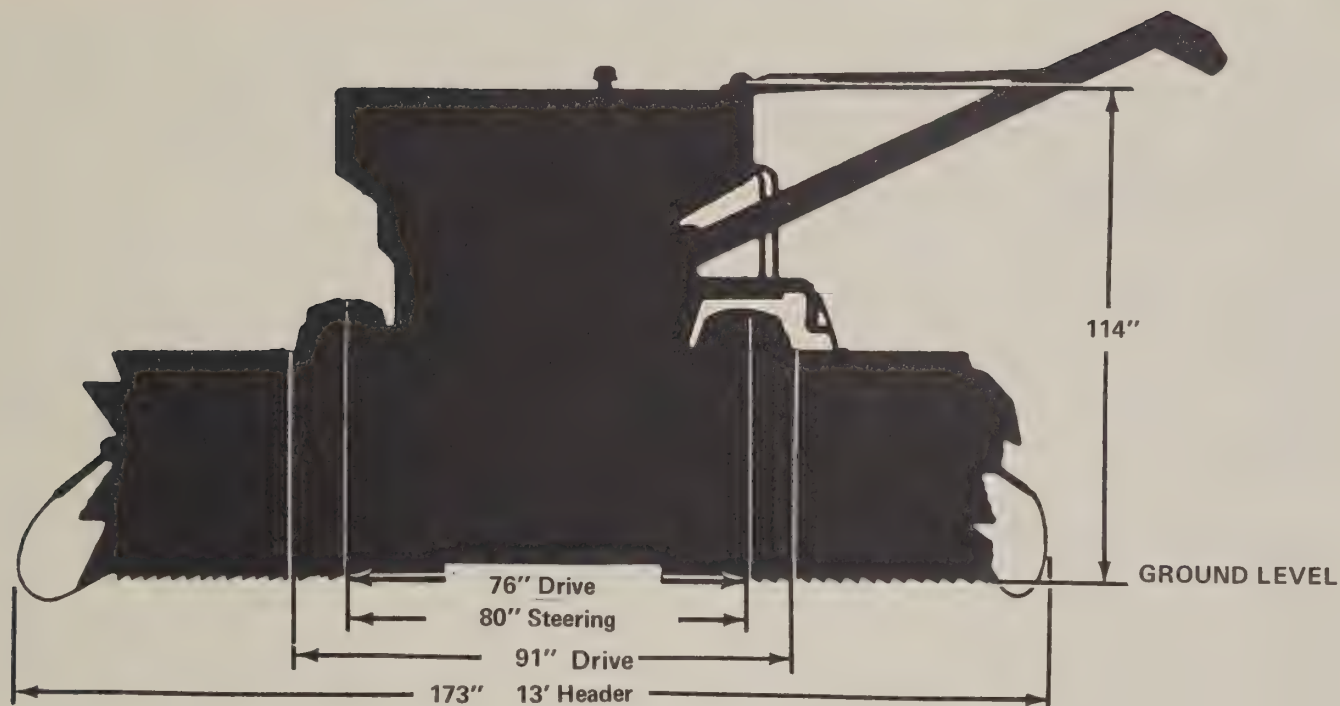
CYLINDER

Type Rasp Bar
Size 19 1/4" dia. 27" width
Speeds Variable Speed
1343-803 RPM

GRAIN BIN

Capacity Standard66 Bu.

SPECIFICATIONS (Cont'd)



CYLINDER HOUSING

Concaves.....	5 Steel Channel
Concave Door.....	Spring Loaded Latch
Concave Bottom.....	Spring Down
Feeder Beater.....	Retractable Finger
Thresher Beater.....	Wing Type

SEPARATOR

Type.....	Conveyor-walker
Width.....	32"
Length.....	165"

RADDLE

Type.....	Slat
Width.....	32"

TOTAL SEPARATING AREA 5448 Sq. in.

SPECIFICATIONS (Cont'd)

STRAW WALKER

Type..... Closed Bottom
 Number..... 3
 Width..... 10.0"
 Length..... 72"

SEPARATOR BEATER

Type.....Wing

SEPARATOR FAN

Type.....4 Blade Overshot
 Width..... 32"
 Diameter..... 18 1/2"
 Speed 852 RPM

CLEANER FAN

Type..... 4 Blade Undershot
 Width..... 32"
 Diameter..... 20.24"
 Speed..... 337 to 698 RPM

CLEANER SHOE

Type..... End Shaker

CHAFFER

Type.....Adjustable
 Width..... 34.19"

CHAFFER AREA..... 1160 Sq. in.

FINGER TAILER AREA..... 162 Sq. in.

SIEVE

Type.....Adjustable
 Width..... 30.19"
 Area..... 1228 Sq. in.

TOTAL CLEANING AREA..... 2550 Sq. in.

TRANSMISSION

Type.....Parallel Shaft
 Capacity..... 14 Pts.

FINAL DRIVE

Type Spur Gear
 Capacity..... 6 Pts. Ea.

TRANSMISSION CLUTCH

Type..... Ceramic Button

GROUND SPEEDS (MPH) With 14.9/13-26 Tires

STANDARD

SLOW *

1st Gear	.93 - 2.41	.59 - 1.54
2nd Gear	2.16 - 5.61	1.38 - 3.59
3rd Gear	5.36 - 14.00	3.44 - 8.26
Reverse	2.24 - 5.83	1.43 - 3.72

* The slow speeds shown are obtained by interchanging the change gears on end of transmission. See your Allis-Chalmers Dealer.

All speeds were determined when the combine was equipped with 14.9/13 - 26 tires.

SPECIFICATIONS (Cont'd)

ENGINE

Fuel.....	Gasoline
Number of Cylinders.....	6
Piston Displacement.....	250 cu. in.
Bore.....	3.8 in.
Stroke.....	3.53 in.
Firing Order.....	1-5-3-6-2-4
Low Idle RPM.....	500 - 550 RPM
High Idle RPM.....	2270 -2310 RPM
Rated Load RPM.....	2200 RPM
Compression Ratio	8.5 to 1
Timing.....	.0° at Low Idle
Valve Setting.....	Hydraulic Lifters
Spark Plugs	A-C 46-N
Spark Plug Gap.....	.035"
Distributor Point Gap.....	.016" - .019"
Dwell	31° - 34°
Crankcase Capacity	
Without Filter Change.....	5 qts.
With Filter Change.....	6 qts.
Coolant Capacity.....	17 qts.

STEERING

Mechanical.....	Standard
Hydrostatic.....	Optional

WHEEL BRAKES - HYDRAULIC (Optional)

GRAIN HEADER SIZES AVAILABLE.....10 ft., 12 ft., 13 ft., 15 ft.

CORN HEAD SIZES AVAILABLE.....2-40", 3-30", 3-35"

NOTE: Equipment shown on cover picture and in pictures throughout this manual are not necessarily standard. Shields have been removed in some photos for clarification. Do not operate combine unless shields are in place.

The ALLIS-CHALMERS Manufacturing Company reserves the right to make changes in the above specifications or to add improvements at any time without notice or obligation.

LUBRICATION

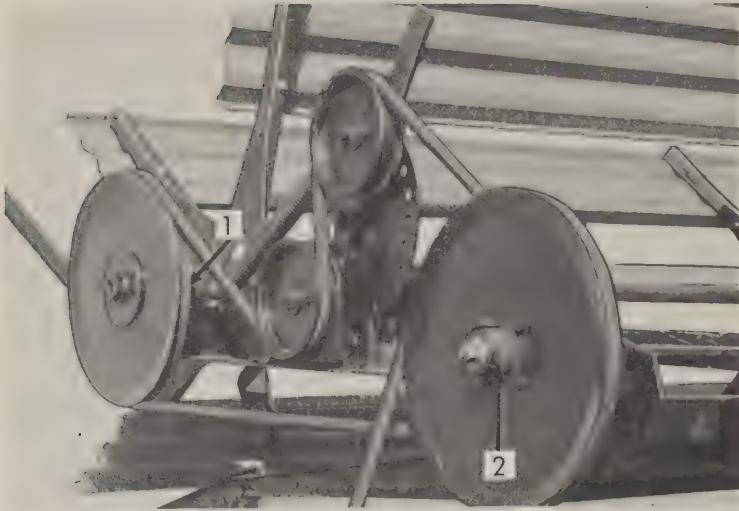


FIG. 2

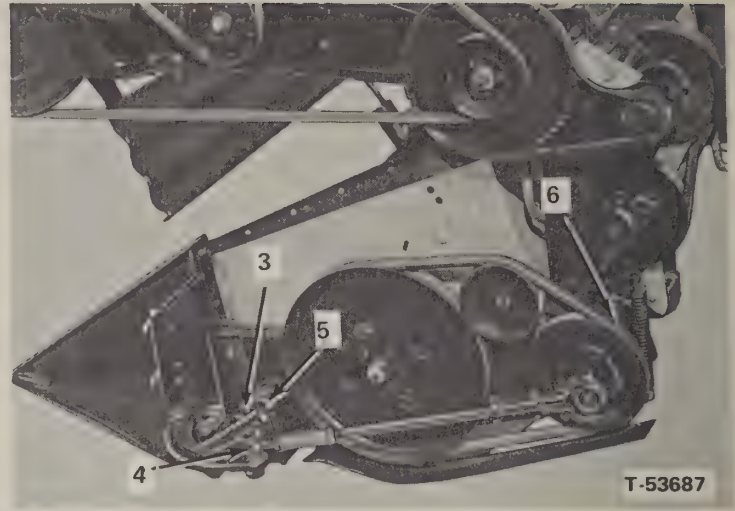


FIG. 3

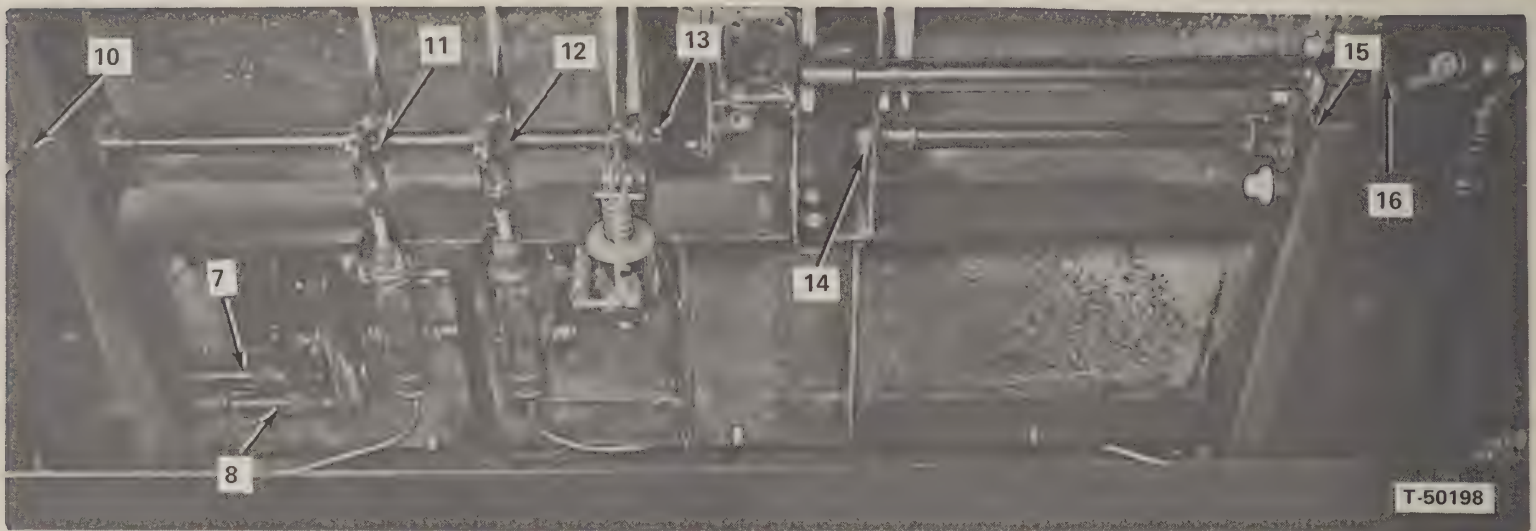


FIG. 4

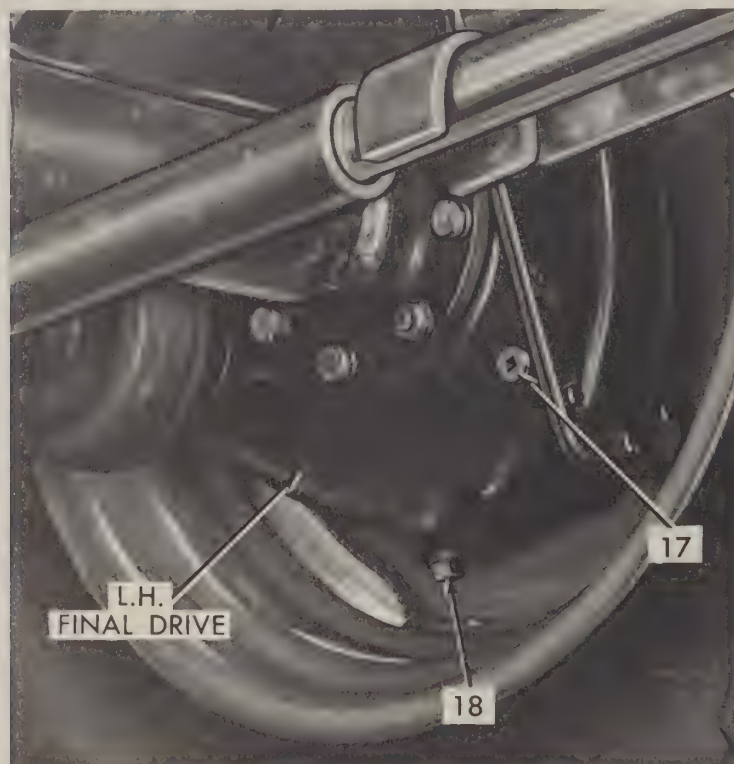


FIG. 5

LUBRICATION (Cont'd)



FIG. 6

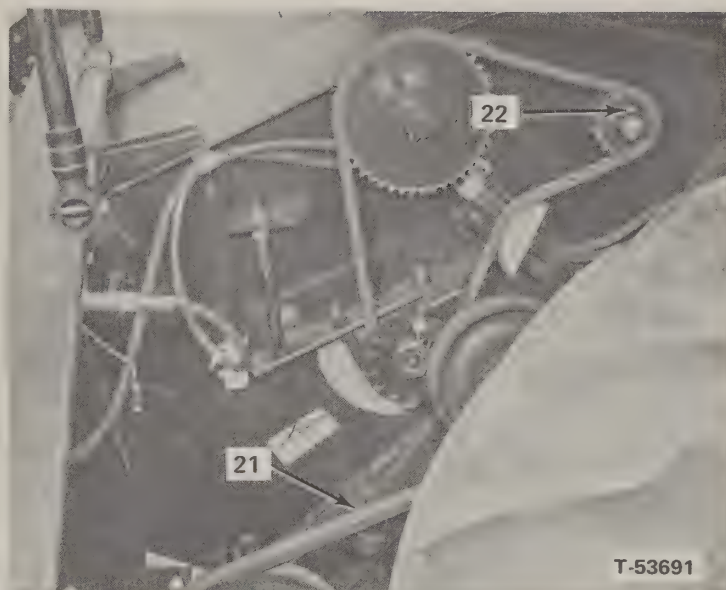


FIG. 7

The following lists contain lubrication fittings that require service as follows: twice daily 2D ; once daily D ; twice weekly 2W and weekly W. Periodical lubrication is specifically stated. Lubricate all linkages not having fittings with engine oil daily. Brush light oil liberally on all chains after day's work.

 NEVER ATTEMPT TO CLEAN, LUBRICATE OR ADJUST THIS MACHINE WHILE IT IS IN MOTION!!

<u>REFERENCE NO.</u>	<u>TIME INTERVAL</u>	<u>DESCRIPTION AND LOCATION</u>
(1) - Fig. 2	D	L.H. reel shaft bearing
(2) - Fig. 2	D	Reel intermediate drive sheave bearing
(3) - Fig. 2	2-D	Front bellcrank ball
(4) - Fig. 2	2-D	Rear bellcrank ball
(5) - Fig. 2	2-D	Sickle bellcrank bearing - grease until lubricant appears at bottom of bellcrank.
(6) - Fig. 2	D	Idler arm pivot
(7) - Fig. 4	2-W	Variable speed and header tube assy.
(8) - Fig. 4	2-W	Reel lift and variable speed reel tube assy.
(9) - — —	— —	Not applicable.
(10) - Fig. 4	2-W	R.H. brake pedal shaft bearing
(11) - Fig. 4	2-W	R.H. brake pedal bearing
(12) - Fig. 4	2-W	L.H. brake pedal bearing
(13) - Fig. 4	2-W	L.H. brake shaft bearing
(14) - Fig. 4	2-W	R.H. clutch shaft bearing
(15) - Fig. 4	2-W	L.H. clutch shaft bearing
(16) - Fig. 4	2-W	Steering shaft bearing
(17) - Fig. 5	Check Periodically	Final drive oil level and filler plug (Use S.A.E. 90E.P. oil. Keep filled to level of plug.)
(18) - Fig. 5		Final drive housing drain plug
(19) - Fig. 6	Check Periodically	Transmission and differential oil level plug (Use S.A.E. 90E.P. oil. Check oil level before starting combine.)
(20) - Fig. 6		Transmission drain plug
(21) - Fig. 7	D	Harvester drive belt idler pivot
(22) - Fig. 7	(See note below.)	Thresher beater slip clutch

NOTE: Grease the thresher beater slip clutch only after it has slipped. Grease until lubricant begins to come from hub. Do not over grease, so that lubricant does not get on to slip clutch jaws.

LUBRICATION (Cont'd)

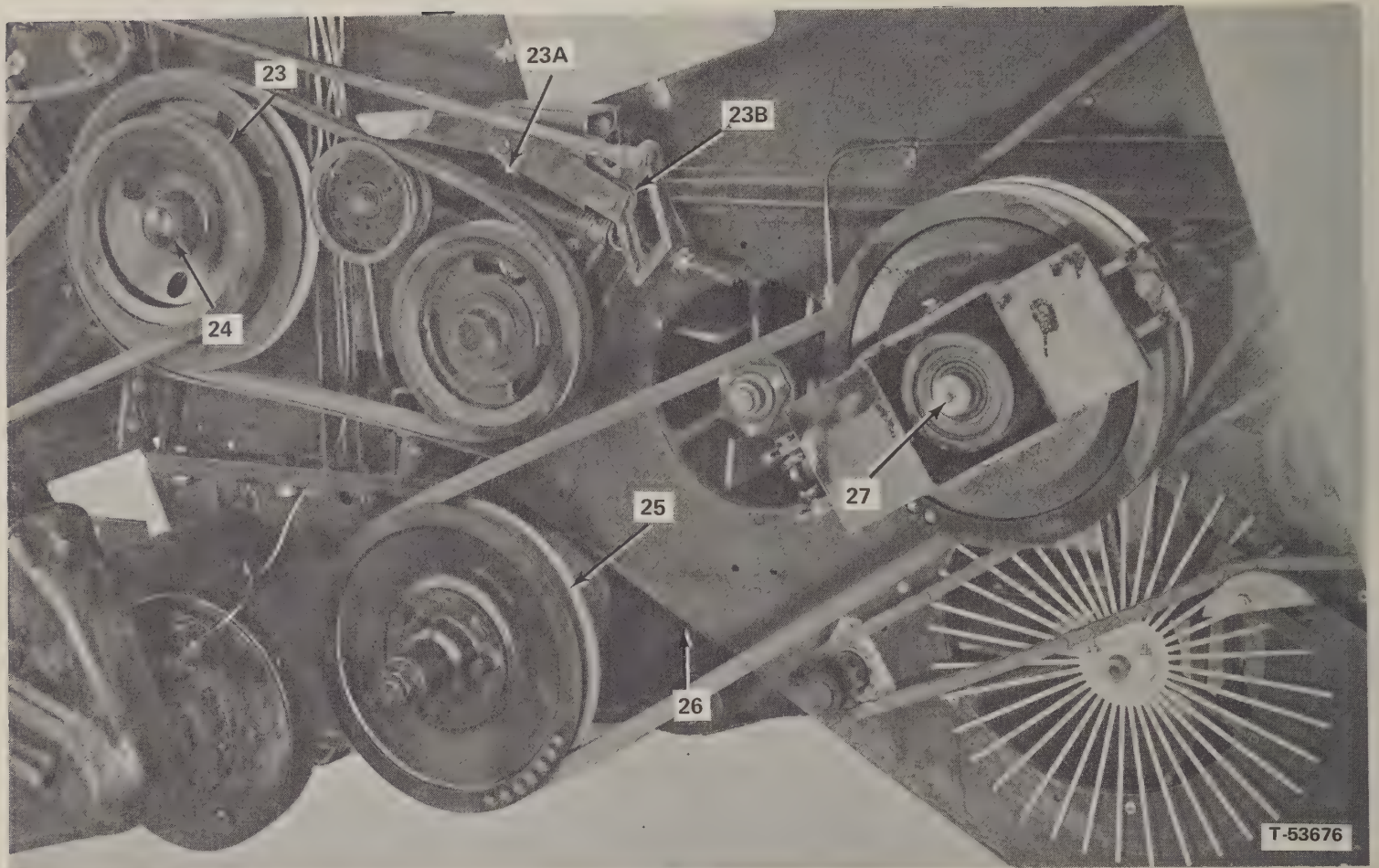


FIG. 8



FIG. 8A

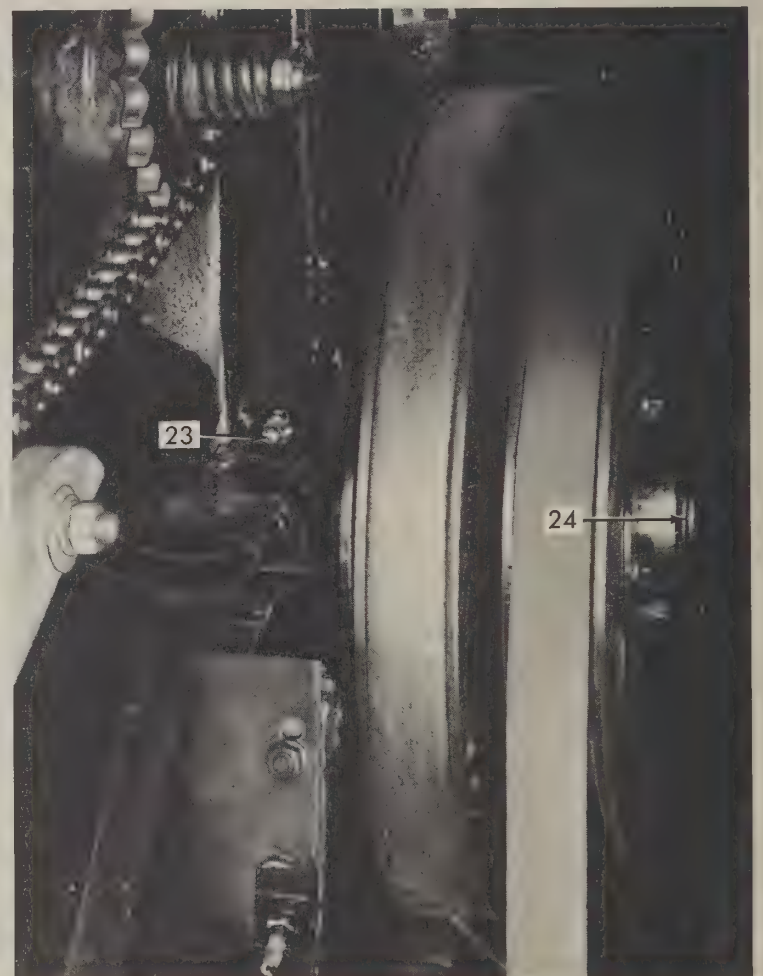


FIG. 9

LUBRICATION (Cont'd)

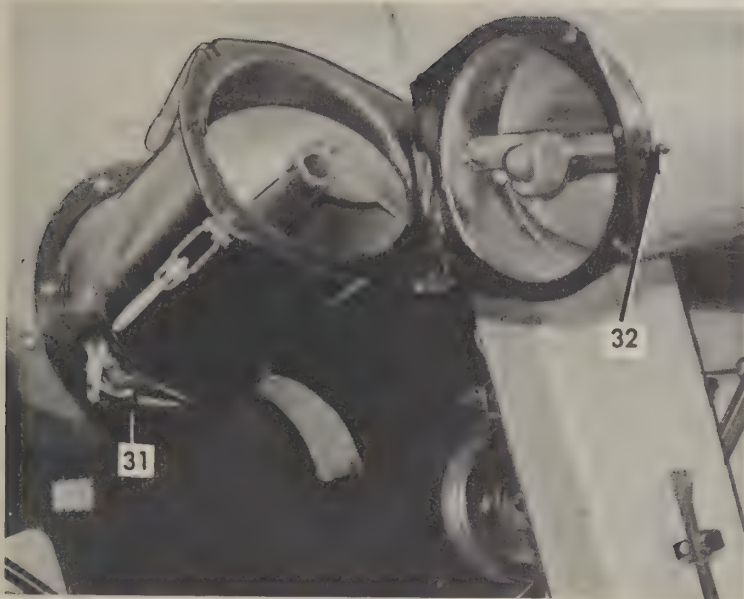


FIG. 10



FIG. 11



FIG. 13

REFERENCE NO.	TIME INTERVAL	DESCRIPTION AND LOCATION
(23) - Figs. 8 & 9	2-W	L.H. pivot shaft bearing
(23-A) - Fig. 8	2-W	Header throw-out
(23-B) - Fig. 8	2-W	Header throw-out
(24) - Figs. 8 & 9	Repack once/season	L.H. pivot shaft bearing
(25) - Fig. 8	2-D	Traction driven sheave hub (hub may not take much grease after initial greasing.)
(26) - Fig. 8		Clutch throw out bearing
(27) - Fig. 8	2-D	Traction drive sheave hub
(28) - Fig. 8A	2-W	Steering Arm Bellcrank (3 fittings)
(29) - Fig. 8A	D	Main drive belt idler pivot

NOTE: The tailings drive slip clutch needs to be greased only after it has slipped. Grease until lubricant begins to come from hub. Do not over grease, so that lubricant does not get onto slip clutch jaws.

(30) - Fig. 8A	See Note Above	Tailings drive slip clutch
(31) - Fig. 10	D	Auger drive gear box bearings
(32) - Fig. 11	D	Unloader tube bearing, lower
(33) - Fig. 11	D	Unloader tube bearing, outer
(34) - Fig. 13	2-W	L.H. spindle
(35) - Fig. 13	2-W	Bellcrank pivot
(36) - Fig. 13	2-W	Axle pivot shaft, front
(37) - Fig. 13	2-W	Axle pivot shaft, rear
(38) - Fig. 13	2-W	R.H. spindle

LUBRICATION (Cont'd)

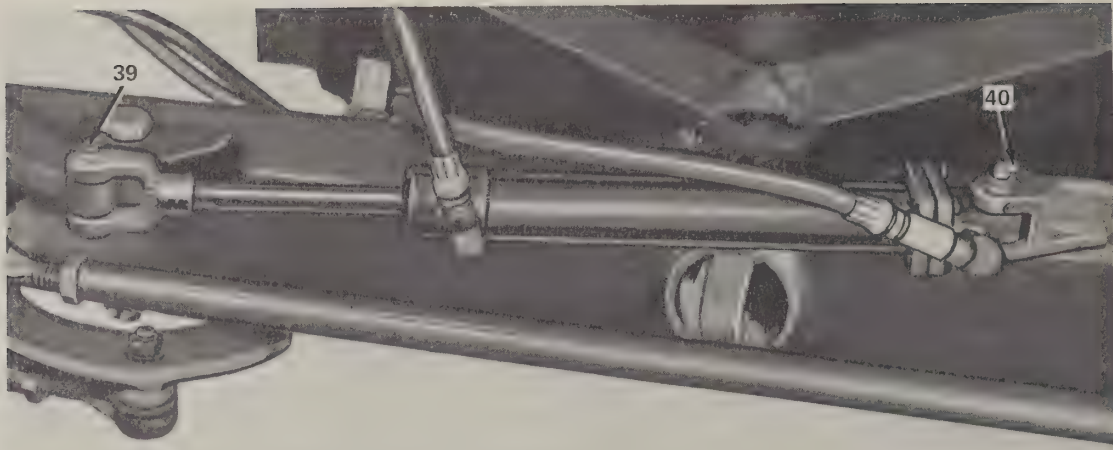
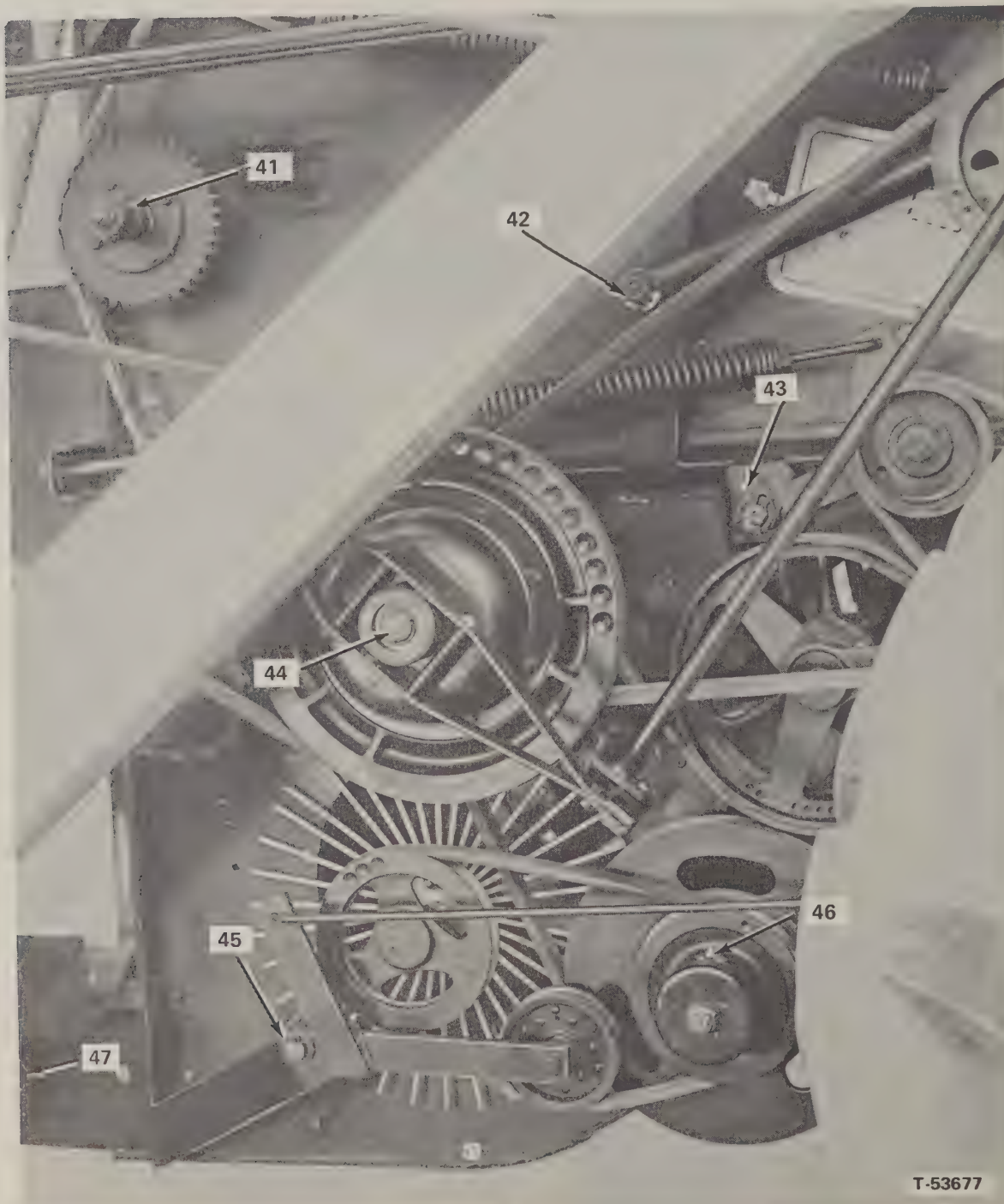


FIG. 14



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FIG. 15

LUBRICATION (Cont'd)

REFERENCE NO.	TIME INTERVAL	DESCRIPTION AND LOCATION
(39) - Fig. 14	2-W	Cylinder anchor clevis, L.H. (Optional Equipment)
(40) - Fig. 14	2-W	Cylinder anchor clevis, R.H. (Optional Equipment)
(41) - Fig. 15	See Note #1	Raddle drive slip clutch
(42) - Fig. 15	D	Pivot drive belt idler arm
(43) - Fig. 15	D	Countershaft drive belt idler arm
(44) - Fig. 15	2-D	Separator clutch sleeve bearing
(45) - Fig. 15	D	Control Rod pivot - variable
(46) - Fig. 15	D	Fan variable speed sheave
(47) - Fig. 15	See Note #1	Clean grain elevator slip clutch

LUBRICATION (Cont'd)

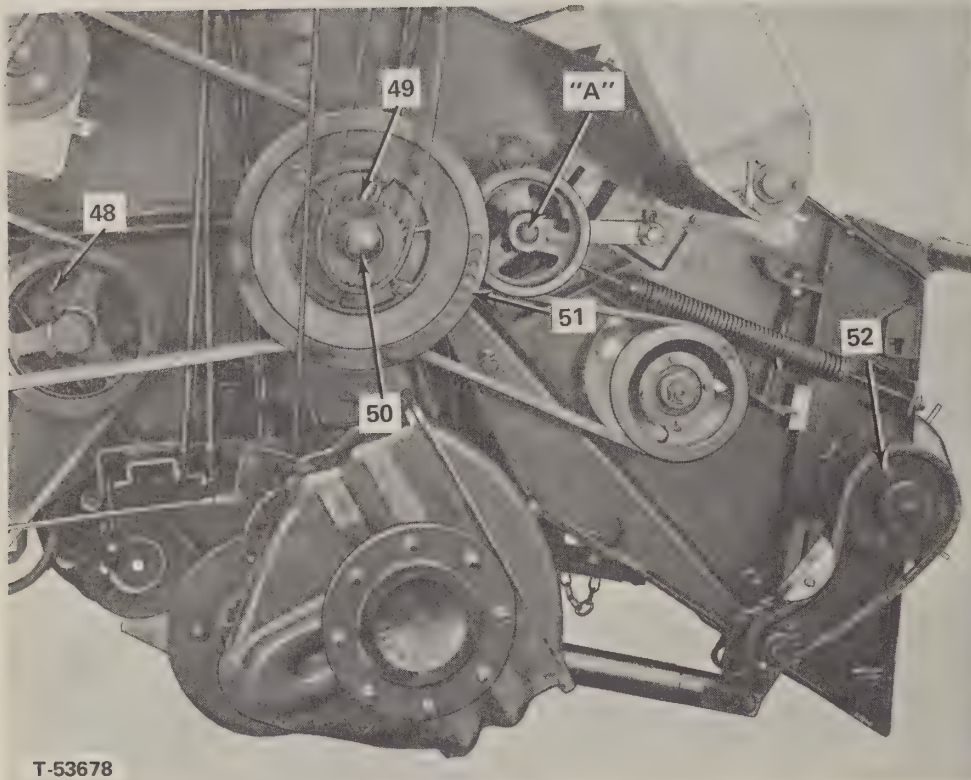


FIG. 16

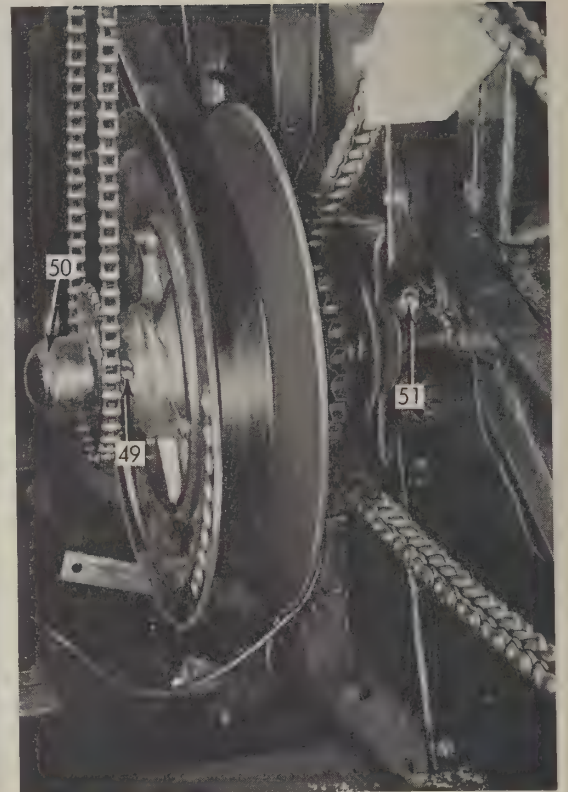


FIG. 17

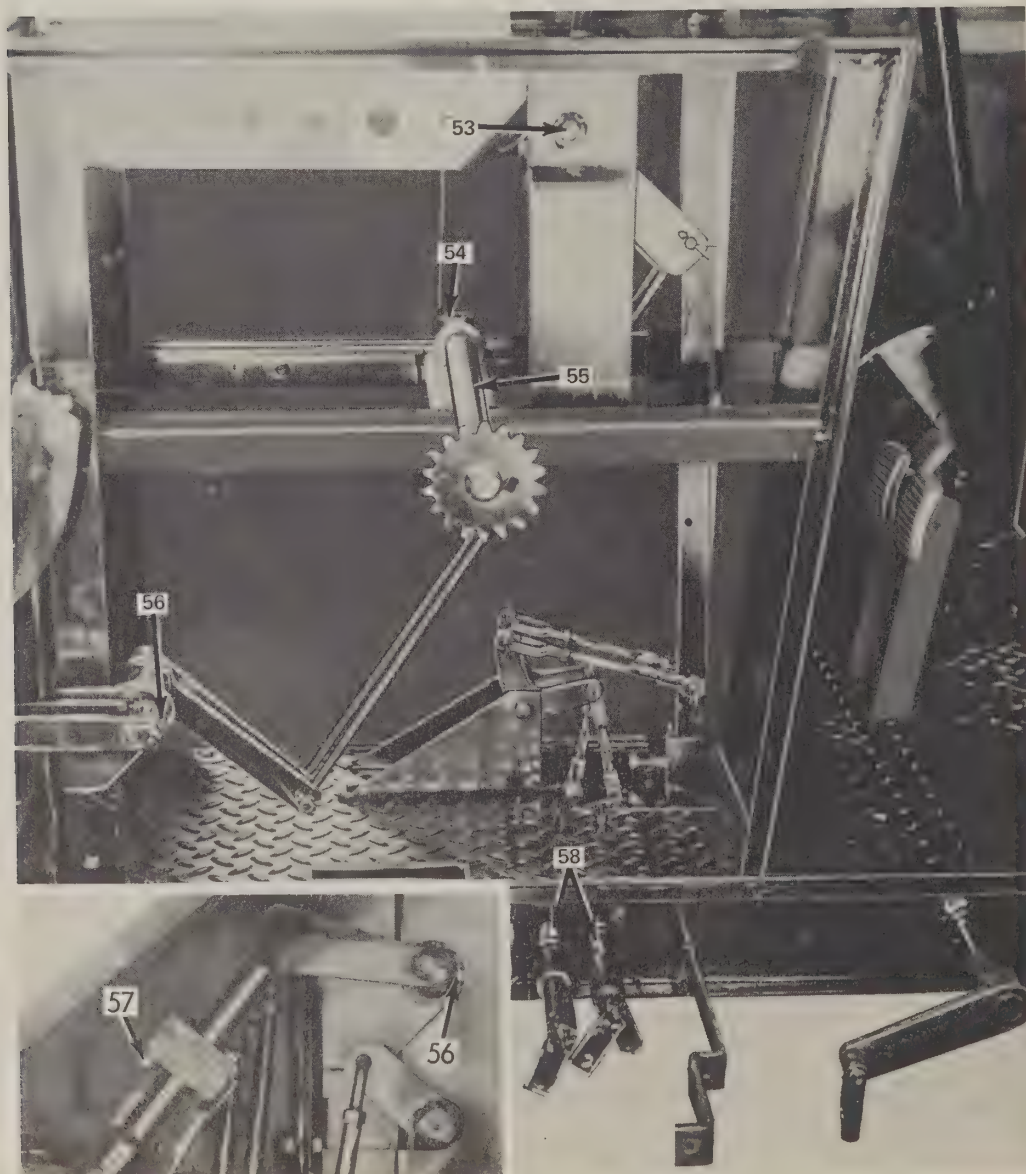


FIG. 18

LUBRICATION (Cont'd)

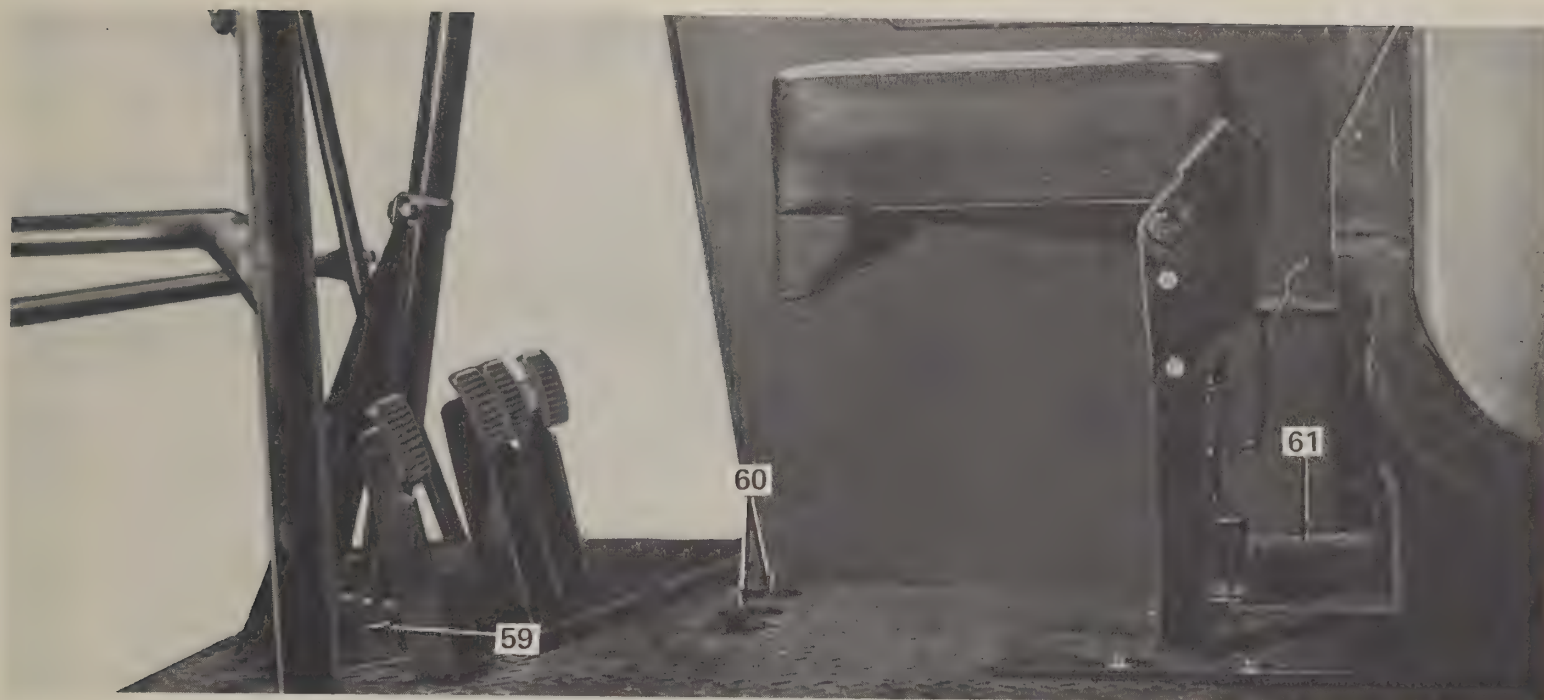


FIG. 19

REFERENCE NO.	TIME INTERVAL	DESCRIPTION AND LOCATION
(48) - Fig. 16	D	Countershaft drive belt idler arm
(49) - Figs. 16 & 17	2-W	Variable cylinder speed hub (Lubricate until grease appears at relief port.)
(50) - Figs. 16 & 17	Repack once/season	R.H. pivot shaft bearing
(51) - Figs. 16 & 17	2-W	R.H. pivot shaft bearing
(52) - Fig. 16	D	Feeder beater slip clutch
(53) - Fig. 18	D	Gear shift lever pivot
(54) - Fig. 18	See Note #2 Below	Cylinder speed indicator nut
(55) - Fig. 18	2-W	Cylinder variable speed control shaft
(56) - Fig. 18	2-W	Gear shift linkage pivot
(57) - Fig. 18 (See inset)	2-W	Separator clutch linkage pivot
(58) - Fig. 18	2-W	Variable speed and header lift linkage pivots
NOTE #1: The clean grain elevator and raddle drive slip clutches need to be greased only after they have slipped. Grease until lubricant begins to come from hub. Do not over grease, so that lubricant does not get onto slip clutch jaws.		
NOTE #2: Periodically apply a light weight oil to threads on the cylinder speed indicator nut. It is on inside of instrument panel.		
(59) - Fig. 19	Check Periodically	Manual steering gear box (Keep filled with S.A.E. 140 lubricant to level of filler plug.)
(60) - Fig. 19	Check Periodically	Brake cylinders (Use hydraulic brake fluid to maintain proper level.)
(61) - Fig. 19	2-W	Bin unloading tube drive lever

LUBRICATION (Cont'd)

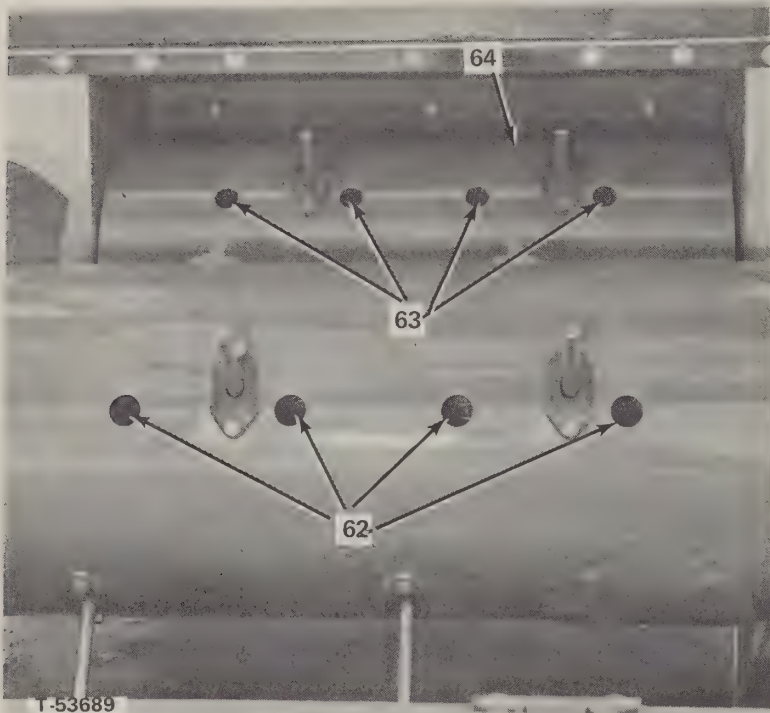


FIG. 20

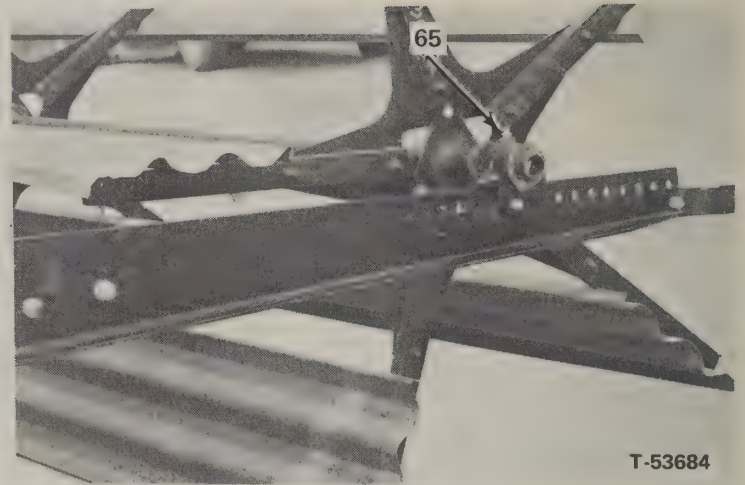


FIG. 21

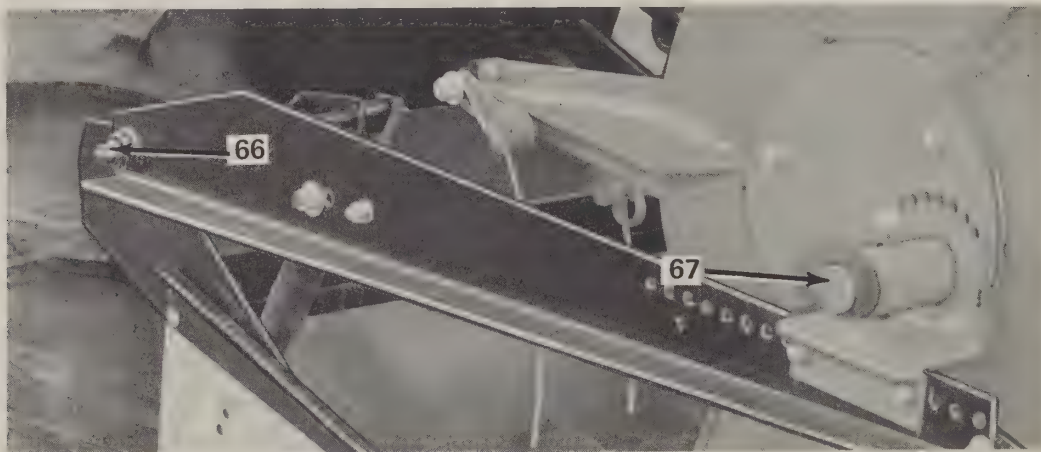


FIG. 22

REFERENCE NO.	TIME INTERVAL	DESCRIPTION AND LOCATION
(62) - Fig. 20	D	Auger finger retainer bearings
(63) - Fig. 20	D	Feeder beater finger retainer bearings
(64) - Fig. 20	D	L.H. beater crank bearing
(65) - Fig. 21	D	Reel shaft bearing (one at each end of reel shaft)
(66) - Fig. 22	D	Reel arm pivot (One at each reel arm)
(67) - Fig. 22	D	Eccentric drive crank bearing (one at each end of reel)

ENGINE LUBRICATION AND SERVICE

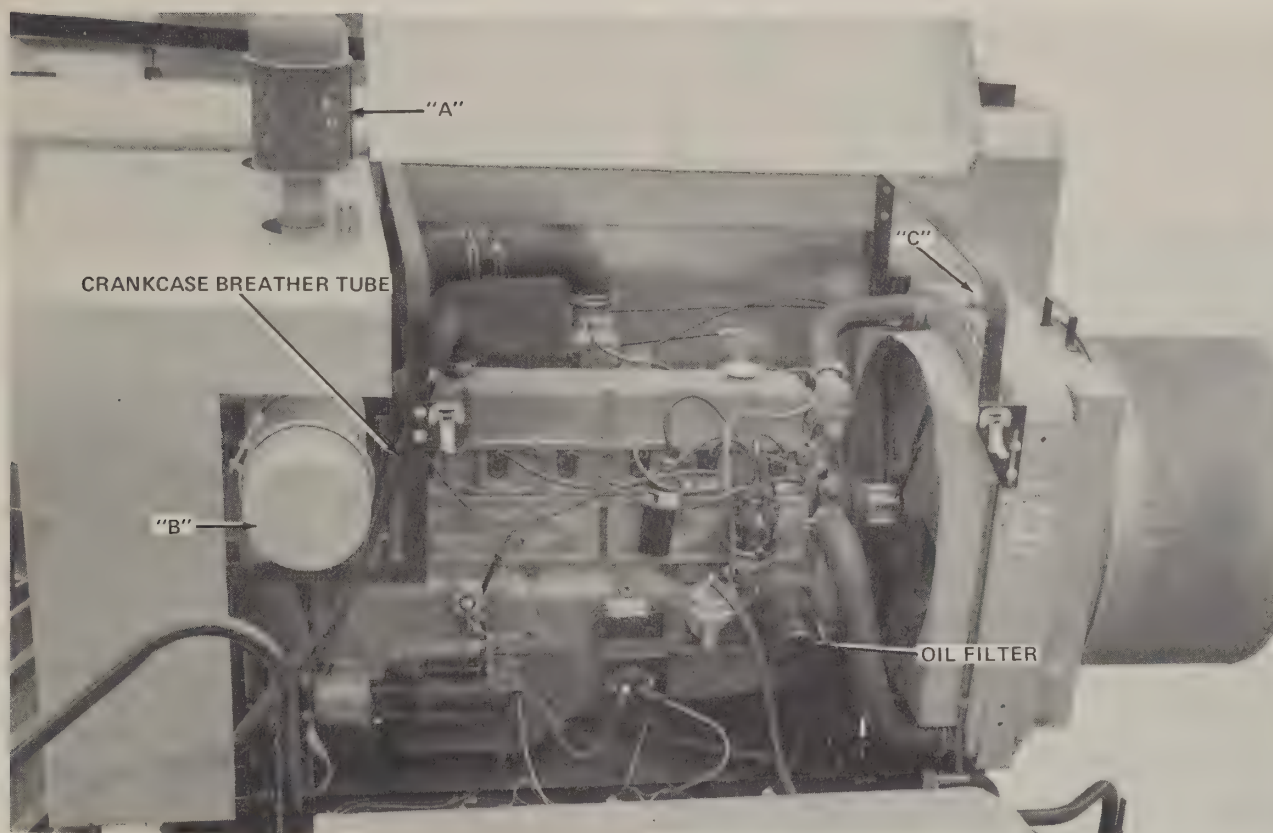


FIG. 23

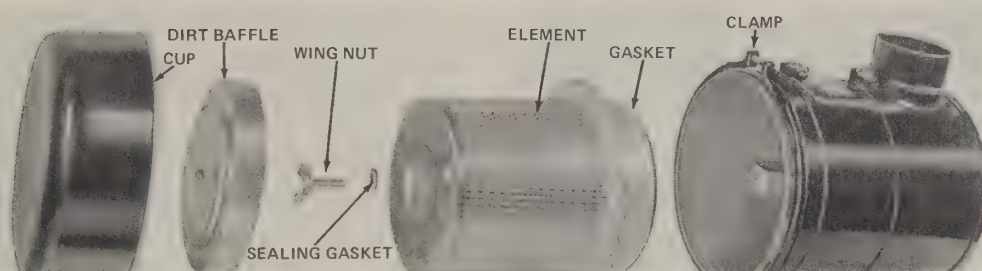


FIG. 24

A. AIR INTAKE PRE-CLEANER (Fig. 23)

Clean the screen twice a day or oftener in extreme operating conditions.

B. AIR CLEANER - DRY TYPE (Figs. 23 & 24)

Function - The air cleaner is of the dry type. The air entering the filter assembly travels the length of the filter while circulating around the element. Because of this action, the larger, heavier particles are centrifuged into the dust receptacle. The air is cleaned as it passes through the filter element.

Cleaning Filter - Empty the air cleaner dirt baffle daily. Service the filter element only when the air restrictor indicator shows red. The filter element can be removed, cleaned and reinstalled as long as the element is in good condition. Replace the element at least once per season. Never service the element while the engine is running.

To service the air cleaner, loosen the clamp and remove the cup at end of cleaner assembly. Remove the dirt baffle from the cup and dump out the dirt. Wipe the baffle and cup clean with a dry cloth. Do not use an oil saturated cloth.

Remove wing nut at end of element and remove element from cleaner assembly. When reinstalling element be sure rubber sealing gasket is replaced under wing nut washer.

Cleaning the element by one or the other of the following methods is recommended and will aid in increasing the life of the element.

1. If the element is dry or dusty, it may be cleaned by use of compressed air hose. Blow dry filtered air (100 P.S.I. or less) through element from the inside toward the outside, or opposite to the direction of arrows on end of element. Keep air nozzle at least 1" away from element.

2. If the element is oily or sooty, it may be cleaned by washing in warm water (120° or less) and a non-sudsing household detergent. If using a water hose (40 P.S.I. or less) apply the water to the inside or center of element, washing the dirt outward. Dry thoroughly before using.

Use caution not to rupture element or damage fins while cleaning. Be careful not to allow dust to deposit on the clean air side of element prior to installing in cleaner assembly. Inspect gasket on element and replace, if necessary.

New replacement gaskets can be installed to element by using 3M EC 847 cement, available from your ALLIS-CHALMERS dealer.

Install air cleaner element and retaining wing nut and gasket, with gasket next to element and tighten wing nut. Properly position the baffle in cup and attach cup to cleaner assembly with the arrows and word "Top" upward.

Prolong the life of your engine by properly servicing the air cleaner. If the air cleaner becomes excessively restricted with dirt, the engine does not receive its required amount of air which affects its power and performance. If dirt is permitted to enter the engine, it will cause excessive wear and drastically shorten the life of the engine.

An air filter indicator which measures air cleaner restriction is standard on your ALLIS-CHALMERS combine.

C. COOLANT CAPACITY - Capacity 17qts. (Fig. 23)

Check coolant level daily. Keep filled to within 2" of the radiator neck. Do not over-fill.

Flush the system once per season. Open drain cocks and remove radiator cap to prevent "air locking" which will retard draining. In freezing weather make sure the system is completely drained if an anti-freeze is not used.

D. ALTERNATOR

An alternator is used and it requires no lubrication. The alternator and regulator are designed for use on only one polarity system. The following precautions must be observed when working on, or trouble shooting the charging circuit. Failure to observe these precautions will result in serious damage to the electrical equipment.

1. When installing a battery or batteries,

always make absolutely sure the ground polarity of the battery and the ground polarity of the alternator are the same. If the battery is reversed when installing and connecting it into the charging system, the battery is directly shorted through the diodes. This will cause the diodes and wiring to be endangered by high current flow and burned out diodes and wiring harness will probably result.

2. When connecting a booster or slave battery, make certain to connect the negative battery terminals together and the positive battery terminals together. Failure to observe this precaution will result in burned out diodes and wiring harness.

3. When connecting a battery charger to the batteries, connect the charger positive lead to the battery positive terminals and the charger negative lead to the battery negative terminals. Failure to follow this procedure will result in damage to diodes and wiring harness. Never attempt to start engine or turn key switch to the "On" position while charger is in use.

4. Never operate the alternator on an open circuit. With no electrical load in the circuit (wires removed or disconnected), the alternator can build up high voltages which can be extremely dangerous to any one who might accidentally touch the battery terminal on alternator. Before making tests or checks, make sure all connections in the circuit are tight.

5. Do not short across or ground any terminals of the alternator or regulator. Grounding or shorting any of the alternator or regulator terminals can cause serious electrical mal-functions that may damage components of the electrical system.

6. Do not attempt to polarize the alternator. This is not necessary since the voltage developed within the alternator is of both polarities and the diode rectifier automatically controls the direction of current flow. It is important that the battery ground and the alternator ground be of the same polarity for diode protection.

E. CRANKCASE OIL

Capacity - 5 qts. - Without filter change
6 qts. - With filter change

Drain and refill the crankcase after the first 30 hours of operation and at every 75 hours thereafter. Replace the oil filter after the initial 30 hours of operation and then every other oil change. When the engine is operated in below freezing weather or extreme dusty conditions change the oil every 50 hours of operation.

Anticipated Temperatures	Viscosity No.
Above freezing (+ 32°F.)	SAE 20W, SAE 10W-30
Below freezing & above 0°F.	SAE 10W, SAE 10W-30
Below 0°F.	SAE 5W, SAE 5W-20

Check the oil level on the dipstick daily and add oil as required.

The oil drain tube is located on the R.H. side of the combine and extends out below the radiator near the hydraulic reservoir. Remove the cap to drain the oil.

Use only oils that are intended for service MS and pass car manufacturers tests.

F. OIL FILTER (Fig. 23)

Replace the oil filter every other oil change. Use only an ALLIS-CHALMERS filter provided specifically for your engine.

Various filters for different engines may look alike, but are designed to operate on a specific engine. Do not interchange filters designed for one engine to another. Make a practice of keeping several filters on hand so that they will be available when needed.

G. SEDIMENT BOWL

The sediment bowl which is located in the fuel line from the tank to the fuel pump is used to filter out dirt from the fuel. Check it daily and clean it when necessary,

CAUTION: Make sure seal does not leak when sediment bowl is replaced. Fuel leaks can be extremely dangerous.

ENGINE TIMING (Fig. 25)

For the engine to run efficiently the ignition timing must be set at 0° with the engine running at 500 to 550 RPM. The timing mark on the crankshaft pulley should line up with the 0° mark on the timing gauge. 0° is TDC.

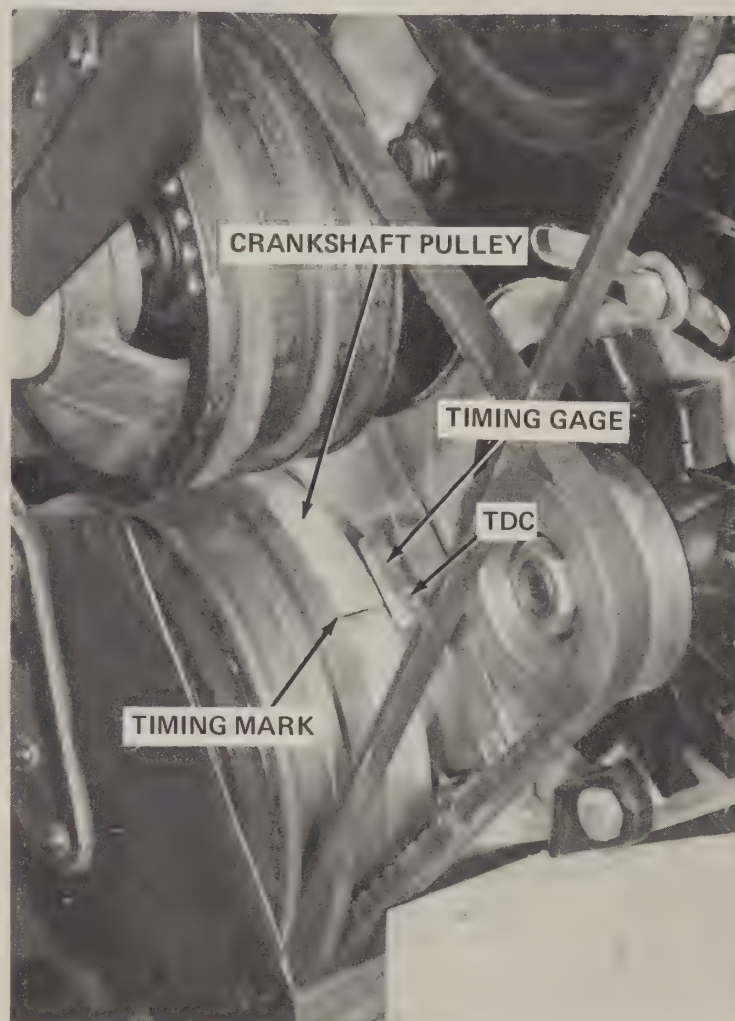


FIG. 25

To set the timing, first set the point gap at .019". Attach a timing light to No. 1 spark plug and start engine and let it run until it is warm. Set idle at 500 to 550 RPM. The mark on the crankshaft pulley and the 0° mark on the timing gauge should line up. If they do not, loosen the distributor clamp and rotate the distributor until the marks line up. Tighten the distributor clamp and recheck the timing.

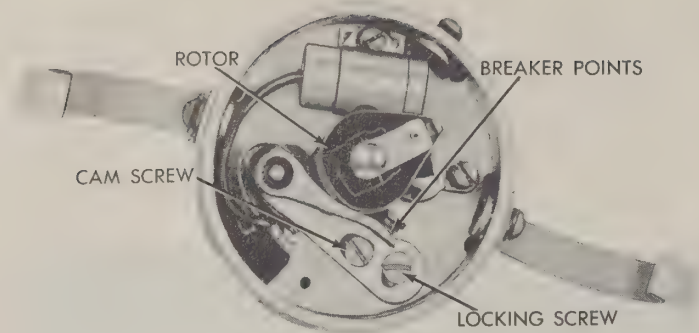


FIG. 26

DISTRIBUTOR (Fig. 26)

The distributor requires very little attention or service, however, the point gap should be checked periodically and points replaced when necessary. The point gap should be adjusted to .016" to .019" or 31° to 34° dwell.

To adjust, remove distributor cap, rotor and dust cover. Rotate engine until the peak of cam lobe is contacting the breaker arm, and points are at their widest position. Loosen the locking screw and turn the cam screw to get the point gap. Retighten locking screw and measure point gap with feeler gauge.

When the contact points become burned, worn or pitted, they should be replaced with a new set. When replacing a point set, always lubricate the cam. Never use emery cloth or sandpaper to clean points, only in case of emergency. Timing should be checked and reset if necessary when installing new points.

ALTERNATOR DRIVE BELT (Fig. 27)

To tighten the drive belt loosen the upper and lower attaching bolts, pivot the alternator away from the engine and retighten the bolts. Check it frequently. The belt must be kept tight for the alternator to operate properly.

GOVERNOR DRIVE BELT (Fig. 28)

Loosen governor attaching bolts, pull governor up and away from engine to tighten belt. This belt must be run tight to assure correct governor action.

GOVERNOR LUBRICATION (Fig. 27)

Check twice a season. Keep governor filled to height of level plug with grade and weight of oil being used in engine. To check, remove level and filler plug, add oil until it flows from level plug hole. Replace plugs.

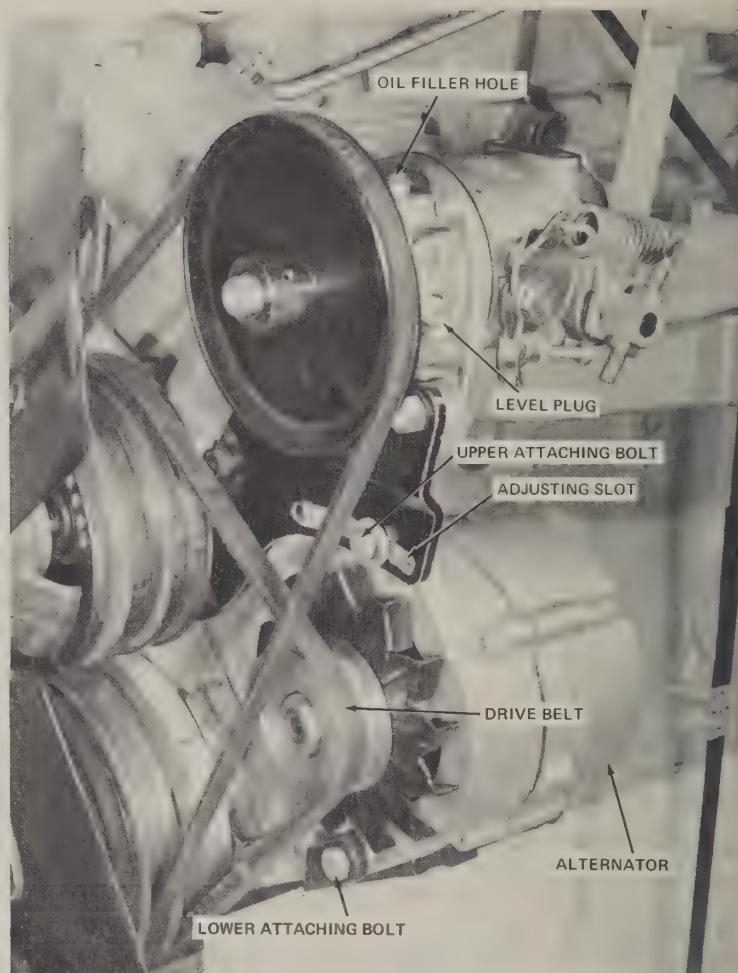


FIG. 27



FIG. 28

GOVERNOR ADJUSTMENT (Fig. 29)

Before making any adjustment on governor make sure engine is in good working order. If governor needs adjusting proceed as follows:

1. Start engine and run until temperature gauge indicates normal range. Engage the separator drive clutch and run machine for several minutes to determine that machine runs freely.
2. Stop engine, set hand throttle wide open. Relieve tension of spring "A". Operate the governor throttle linkage through its full range to check for binds. All binds must be removed. Restore original tension to spring "A".
3. Disconnect the control rod from governor throttle lever. Check throttle shaft for bind. Turn throttle shaft lever assembly clockwise until it stops. Place control rod in position. Rod should be $1/64$ " too long to permit bolt from lining up with hole in governor lever arm. If not, adjust length of control rod and fasten to lever.
4. Start engine. Put hand throttle in wide open position and with no load, adjust cap-screw "C", increasing spring tension to obtain 2270 to 2310 RPM.
5. Engage separator drive clutch, if governor surges, turn adjusting nuts of sensitivity screw "B" a little at a time moving spring away from shaft until surge is removed. (As a starting point there should be $1-1/8$ " between center of spring hole in

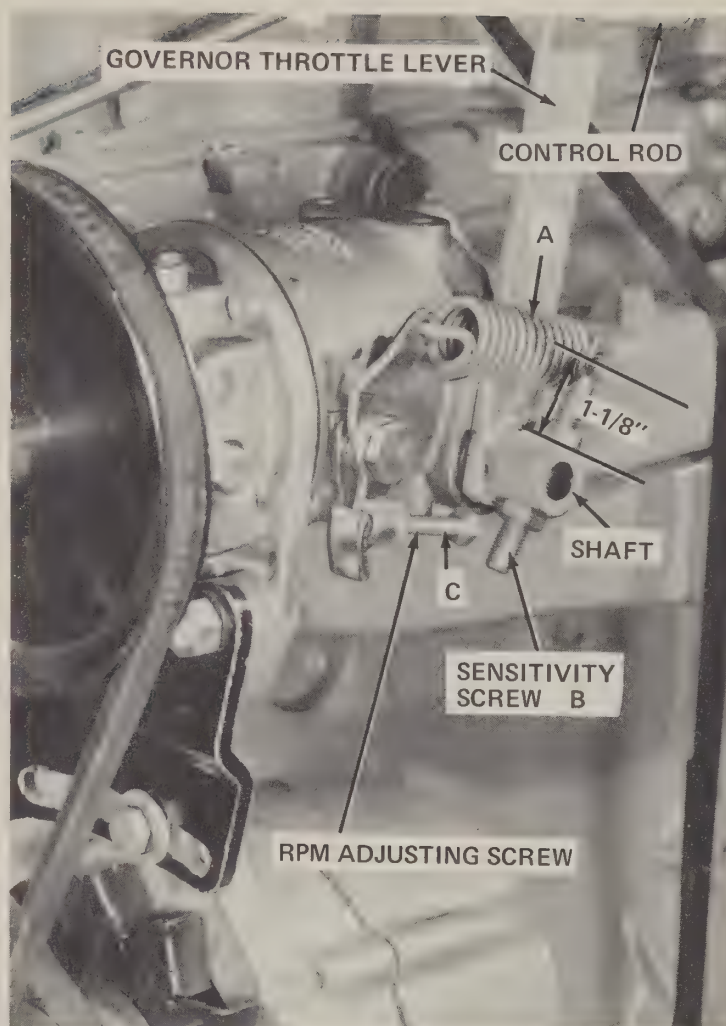


FIG. 29

regulation screw and face of shaft.

CAUTION: Engine RPM must be rechecked after making surge correction adjustment.

NOTE: Before shutting engine off let it idle for about 1 minute. This will insure even cooling and prevent dieseling and after boil.

GASOLINE REQUIREMENTS

The use of a good grade of gasoline is essential for proper performance. The grade of gas used has a direct bearing on power output, starting ability and fuel consumption. Make certain the gasoline volatility is for prevailing seasonal temperatures. The gas tank and gas handling equipment must be kept clean. Sediment bowl should be removed and cleaned periodically. When installing sediment bowl, be sure gasket is in good condition.

SPARK PLUGS (Fig. 30)

The spark plugs should be removed every 200 hours of operation, cleaned and the points re-spaced. If spark plug gap is set too wide, it will induce engine to miss under load. If set

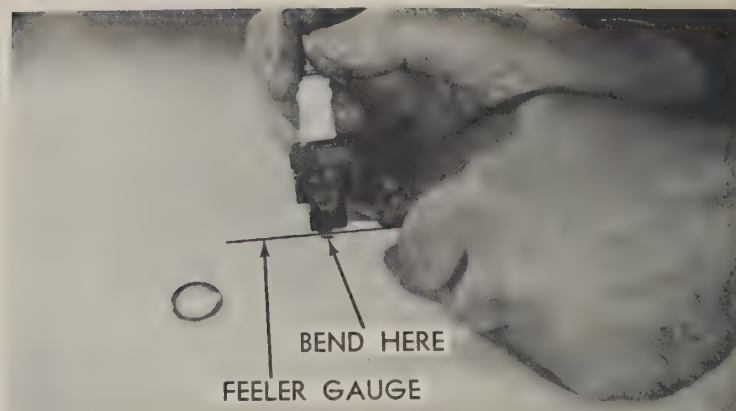


FIG. 30
SPARK PLUG ADJUSTMENT

too close, the engine will not idle properly. Adjust the point gap by bending the outside electrode. Never bend the center electrode. The spark plug point gap should be .035".

OPERATION AIDS FOR 250 ENGINE

CONDITION	POSSIBLE CAUSE	CORRECTION
Hard Starting	Fuel turned off	
	Ignition off	
	Engine flooded	Turn engine over, choke off
	No fuel	Throttle wide open
	Low battery	Charge battery
	Impurities in fuel	Drain, clean and refill
	No fuel to carburetor	Check flow
	No fuel to manifold	See Your Dealer
	No Spark at plugs	Check ignition system
	Low compression	See your Dealer
Engine Mis-Firing	Distributor points burned	See your Dealer
	Ignition timing off	See your Dealer
	Spark plugs fouled or burned	Clean and gap or replace
	Low compression	See your Dealer
	Leaking ignition wires	Replace
	Cracked distributor cap	Replace
	Ignition wires hooked up incorrectly	Install wires properly
Engine Overheats	Low coolant level	
	Radiator clogged	See your Dealer
	Fan belt slipping	Adjust
	Collapsed radiator hose	Replace
	Thermostat stuck closed	Replace
	Late ignition timing	See your Dealer
	Water pump defective	Repair or replace
	Radiator screen plugged	Clean
	Crankcase oil low	Check level
Lack of Power	Governor not functioning properly	Readjust or see your Dealer
	Throttle not wide open	Correct
	Fuel flow obstructed	See your Dealer
	Air cleaner dirty	Clean
	Engine overheating	Check timing, coolant radiator screen
	Incorrectly timed	Retime engine
	Unsatisfactory fuel	Drain and replace

CAUTION: Failure to service spark plugs as recommended causes increased fuel consumption and lack of power. Always use spark plug wrench when removing plugs to prevent cracking insulator. When replacing plugs, make certain gaskets are in good condition and the plugs are tightened to 25 ft. lbs. Incorrect tightening will cause rapid gap erosion.

The combine is equipped with plugs suitable for average operating conditions. When necessary to replace plugs, it may be advisable to use a heat range according to your operating condition. Incorrect plugs are shorter lived and cause poor engine performance. Use plugs specified, or equivalent heat range.

Spark plugs and cables should be maintained in good condition and free of dirt and grease. It may seem unwise to discard a spark plug that has operated successfully for a long period of time, but poor plugs cause hard starting and excessive fuel consumption. For this reason it is advisable to change plugs regularly.

BATTERY (Fig. 31)

The combine engines use one battery. The battery is a 12 volt.

Check level of the electrolyte solution in the batteries at least once a week (50 hours) to make sure it is at the proper level. The electrolyte should be maintained at the indicator level in each cell, which is approximately $3/8$ " above top of separators. Never add anything to the battery solution except pure clean water. Clean containers and filling equipment must be used.



Keep all open flame away from batteries as an explosive gas is liberated when battery is being charged. Use caution to prevent sparks from short circuiting when connecting or disconnecting booster cables.

In cold weather add water to batteries only prior to operating the engine, so that the charging will mix the electrolyte and water to prevent freezing. A fully charged battery will not freeze in cold temperature but if only partly charged will freeze and be damaged, even at temperatures only slightly below freezing. Weekly readings of the spe-



FIG. 31

cific gravity of each cell should be taken with a battery hydrometer. The specific gravity readings indicate the charge condition of the battery as follows:

1.255 full charge, 1.210 half-charge and 1.150 discharged. Return the electrolyte solution to the cell from which it was taken.

Keep the battery and terminals clean. If the terminals become corroded, or if the battery becomes acid soaked, wash with a mixture of baking soda and water. The vent plugs must be in place when cleaning the batteries. Check the gas escape holes in vent caps to make sure they are open.

If batteries are removed from combine, disconnect the negative ground cables from the battery terminals first. Upon reinstalling batteries, connect the ground cables last and connect to negative terminal of batteries. The battery retainer should be in place and tightened snugly to prevent batteries from damage by vibration.

In the event the combine is not being used for a long period of time, it is advisable to remove the batteries, have them fully charged and stored in a basement or some similar place where the temperature will be as low as possible, but above freezing.

HYDRAULIC SYSTEM SERVICE

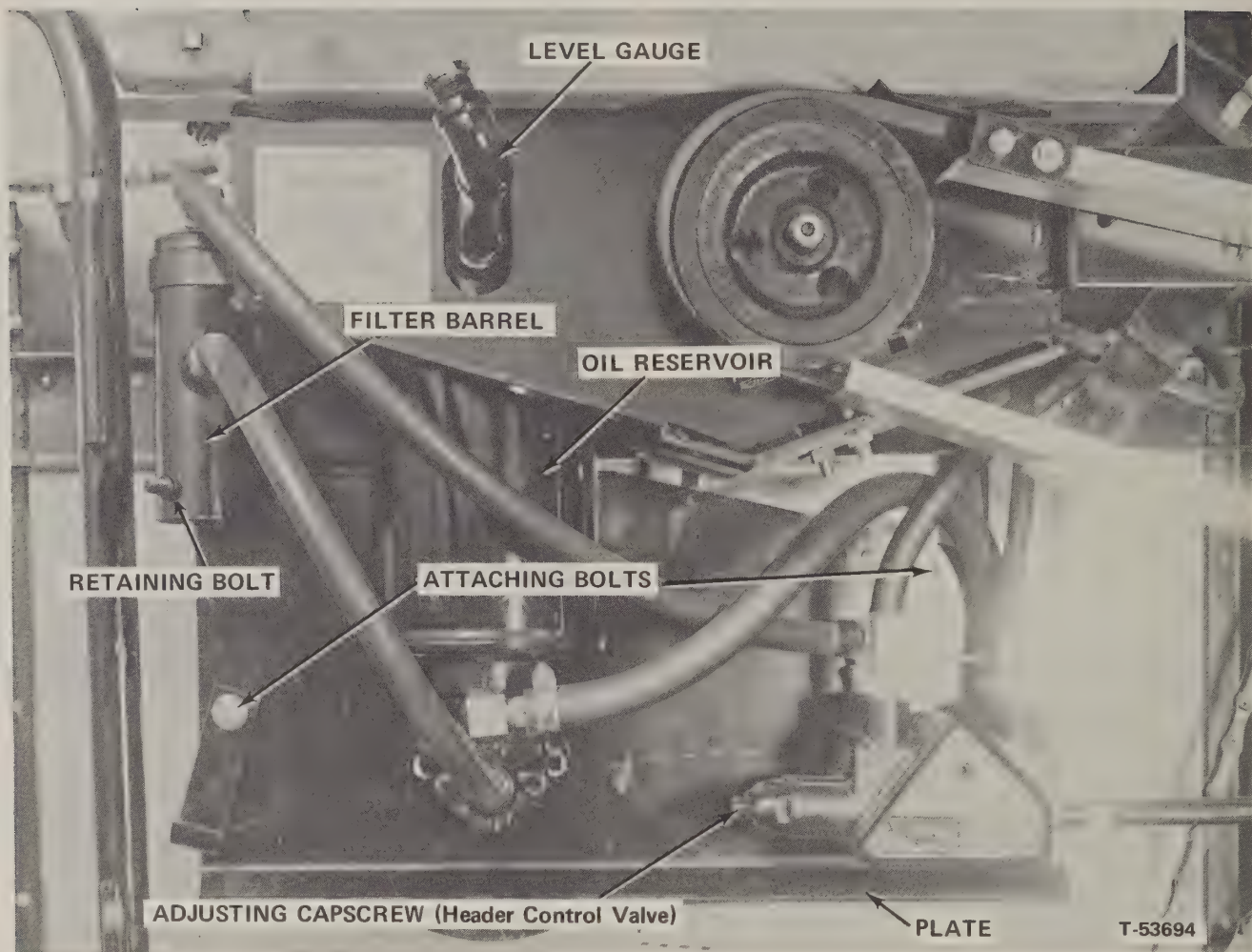


FIG. 32

HYDRAULIC OPERATING PRESSURES

System Relief	- 2000 PSI
Power Steering	- 1500 PSI
Variable Speed Reel	- 300 PSI

FILTER REPLACEMENT (Fig. 32)

Change the hydraulic filter after the first ten hours or after one day of field operation and then once per season.

To replace the element:

Remove end plate retaining bolt. Install retaining bolt into threaded hole in bottom of end plate. Pull end plate from filter barrel followed by spring and element.

Install new filter, spring and end plate. Install retaining bolt in side of barrel. Fill reservoir to the level indicated on decal.

Use type "A" suffix A automatic trans-

mission fluid or Dexron. Check oil level when header is lowered. Fill the filler tube to the top.

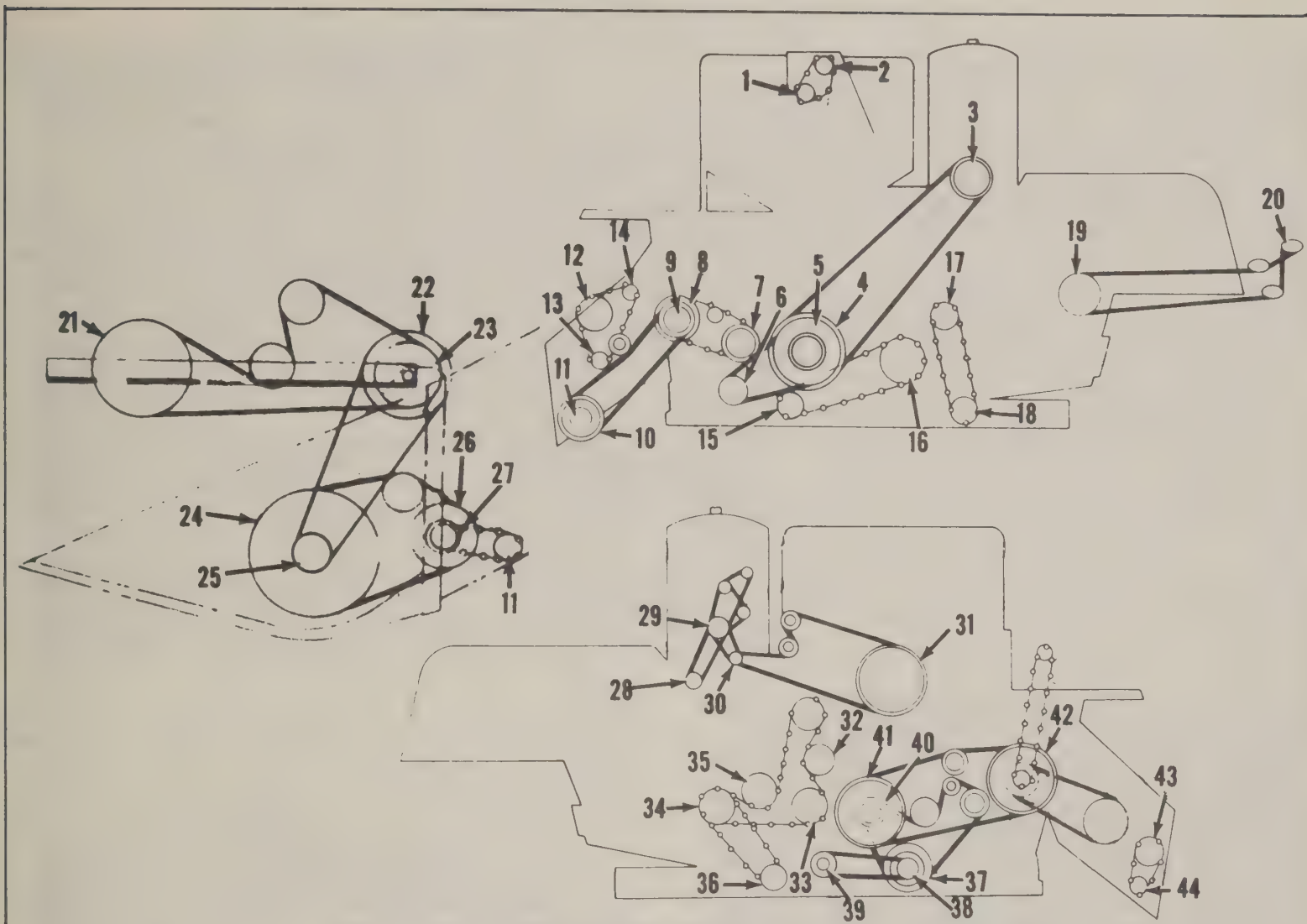
HYDRAULIC PUMP BELT (Fig. 32)

To tighten the belt, loosen the two attaching bolts and pull the plate that the pump and valves are mounted on down. Retighten the two bolts.

HEADER CONTROL VALVE RATE OF LOWER (Fig. 32)

The header control valve has an adjustment to control speed of header lowering. The capscrew located on rear of valve can be turned in or out to change spool travel. By turning the capscrew in, the rearward travel of the spool is limited and the speed at which oil returns from the rams is then decreased.

This adjustment is used when corn head or pick-ups are installed to compensate for additional weight. Make adjustment when oil is warm.



1. Loader Drive II
2. Loader Driven 9
3. Main Drive - 8.98" P.D.
4. Main Clutch - 13.9" P.D.
5. Traction Drive - 8.33" to 13.45 P.D.
6. Traction Driven - 8.33" to 13.45 P.D.
7. Countershaft - 27T
8. Pivot Shaft - 42T
9. Pivot Shaft - 10.35 P.D.
10. Thresher Countershaft - 11.32 P.D.
11. Thresher Countershaft - 15T
12. Tailings Return - 44T
13. Beater Drive - 18T
14. Beater Driven - 18T
15. Countershaft - 14T

16. Eccentric & Shoe - 40T
17. Straw Walker - 14T
18. Tailings Conveyor - 14T
19. Rear Crankshaft - 8.275 P.D.
20. Straw Spreader - 4.9 P.D.
21. Reel - 13.572 P.D.
22. Reel Pivot - 13.572 P.D.
23. Reel Pivot - 6.05 & 7.35 P.D.
24. Harvester Conveyor - 15.824
25. Harvester Conveyor - 4.008 & 5.235 P.D.
26. Harvester Shaft - 8.447 P.D.
27. Harvester Shaft - 18T
28. Hydraulic Pump - 9.07 P.D.
29. Hydraulic Pump - 6.64 P.D.
30. Bin Unloader Drive - 4.798 P.D.

31. Grain Bin Auger - 18.088 P.D.
32. Straw Walker R.H. - 19T
33. Idler Sprocket - 14T
34. Eccentric & Shoe - 40T
35. Raddle Drive - 19T
36. Grain Conveyor - 11T
37. Countershaft R.H. Inner - 12.9 P.D.
38. Countershaft R.H. Outer - 3.11 to 6.45 P.D.
39. Cleaner Fan - 7.16 P.D.
40. Countershaft Drive - 7.04 P.D.
41. Main Clutch Pivot - 7.925 P.D.
42. Pivot Shaft R.H. - 9.75 to 14.89
43. Feeder Beater - 38T
44. Countershaft Thresher - 15T

R.H. WHEEL CLEARANCE

Under some field conditions with different sizes of tires on the drive wheels the operator may notice a slight interference between the tailings return elevator and the R.H. drive wheel when the header is lowered to its extreme limit.

To eliminate this, remove the R.H. drive wheel, turn it, and reinstall with the offset of the rim out. This will set the wheel further out and eliminate any interference.

WHEEL TREAD

If it is ever necessary to reverse the drive wheels to obtain a wider wheel tread, check the valve stem clearance between valve stem and final drive housing.

If contact is made, it will be necessary to remove the tire and tube from the rim and reinstall with valve stem to the outside.

Reverse steering wheels when reversing drive wheels.

CHANGE GEARS ON TRANSMISSION

The change gears on end of transmission can be interchanged to acquire slower ground speeds. See your ALLIS-CHALMERS dealer if it is desired to have slower ground speed. Refer to the ground speed chart in the specification section.

LUBRICATION OF SLIP CLUTCHES

The feeder beater drive slip clutch should be lubricated frequently.

All of the remaining slip clutches should be greased only when they have slipped. When greasing, do not get grease on slip clutch jaws. Stop lubricating when grease begins to appear at hub of jaws.

GENERAL SERVICE (Cont'd)

CARE OF ROLLER CHAINS

Roller chain drives transmit power effectively and efficiently - yet are often neglected. You can make chains last longer and run more smoothly, if you pay attention to proper alignment, adjustment and lubrication. Chains can't be expected to hold up if these requirements aren't met. Points to check:

Wear on link plates and sides of sprocket teeth. This indicates misalignment.

SHAFT AND SPROCKET ALIGNMENT

A straight edge or piano wire (placed from sprocket to sprocket can show misalignment before wear shows).

Wear on working faces of sprocket teeth during "run in". These faces should develop bright polished appearance. Scratches, galls, grooves or visible changes in tooth form are signs of trouble, probably caused by sluggish roller action due to lubrication failure.

CHAIN ELONGATION

An elongation (stretching) of as much as 3% indicates the chain is riding near its limit of allowable height on sprocket teeth. Gradual increase in chain length is the result of normal wear and should be compensated for by adjustment. Compare the amount of sag periodically to know what's happening.

CLEANLINESS

Check the chain and sprocket teeth for accumulations of dirt or foreign materials and for signs of corrosion. Foreign material packed into the chain or sprocket teeth may cause chain or sprocket breakage.

ROLLER CHAIN DO NOT'S

Never insert a new link in a chain that's been lengthened greatly by wear. The "bite" of the new link will be different and the resulting shock, each time the link engages the sprockets, will soon destroy the chain.

Do not install a new chain on badly worn sprockets. A few hours operation under such conditions will do more damage to the chain than years of normal use.

Do not run chains too tight or too loose. Tight chains cause excessive loads on bearings. Loose chains cause noisy operation, chain pulsations or whipping and result in irregular sprocket speeds and abnormal wear.

When installing a link, do not drive the connecting link plate down too far on pins. This "squeezes" the chain joint so no oil can get down in between the link plates, keeps joints from flexing and results in "whipping".

LUBRICATION

Chains should be lubricated, when warm, at least once a day. Apply a prepared or light oil lubricant, with brush, or spray can. Apply liberally but let drain off before operating machine.

PROPER CARE AND ADJUSTMENT OF V-BELTS

GLENER Combine V-Belts are built to insure perfect fit in sheaves for which they are designed. They operate with smooth efficiency and longer life because V-Belt and sheave are mated to meet the requirements of each application. In addition, careful selection and testing of materials to meet rigid engineering standards assure that they will carry the required load as specified by "Allis-Chalmers" engineers.

1. Always use V-Belt bearing "Allis-Chalmers" trade mark.
2. Inspect sheaves. Remove all paint, grease or rust from face. Replace cracked or damaged sheaves.
3. Inspect slip clutches for proper adjustment and operation.
4. Never pry belt over side of sheave.
5. Keep drive belts tight during combine operation.
6. Never permit V-Belts to ride on hub of sheave.
7. Always remove belts when storing. Store in cool, dry place. Coat face of sheaves with grease or other rust preventive.

NOTE: Refer to diagram for correct installation of drive belts and chains.

ADJUSTMENTS

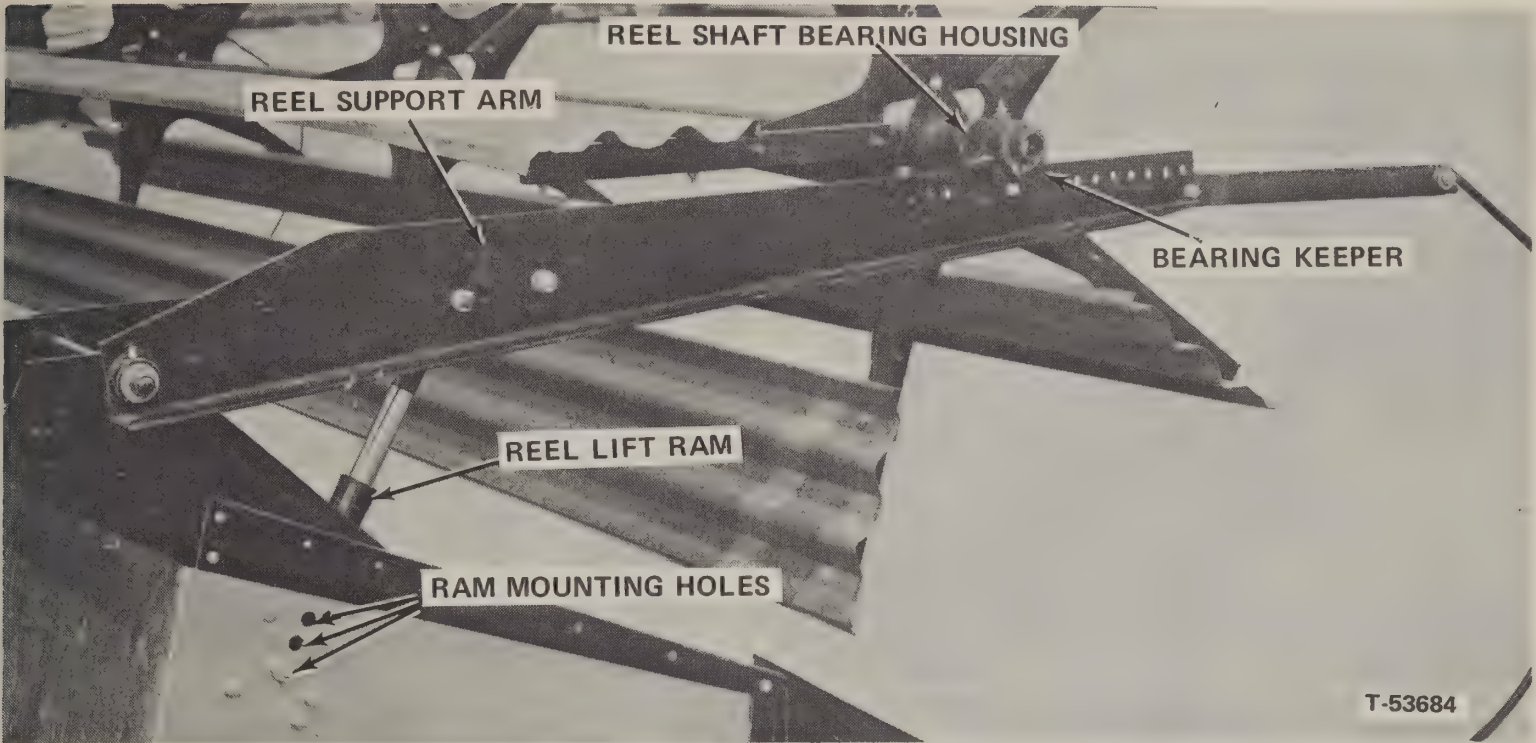


FIG. 2

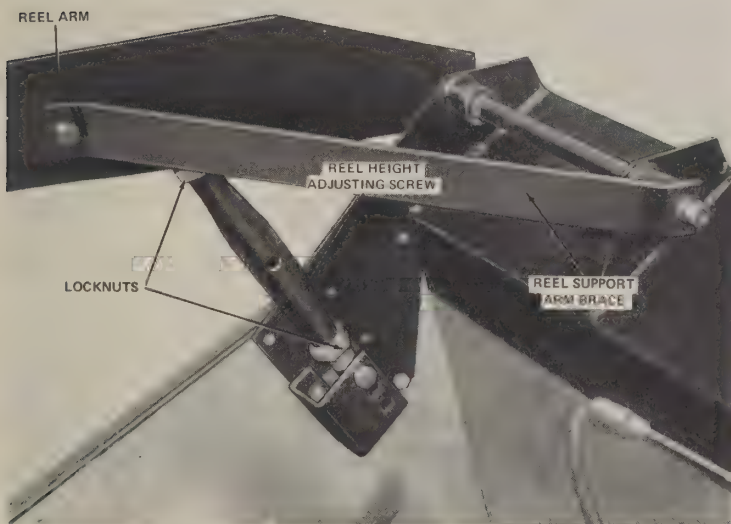


FIG. 3

REEL HEIGHT - Figs. 2 & 3

Fig. 2

The reel should be positioned so that bats contact grain just below heads so reel does not wrap and to prevent bats from shattering grain heads.

The reel is raised or lowered hydraulically (Optional equipment) from the operators platform for quick, easy changes of reel height. Three holes are provided in header sides for mounting rams. Reel height can be varied by changing ram attaching point.

Fig. 3

On standard headers not equipped with the optional

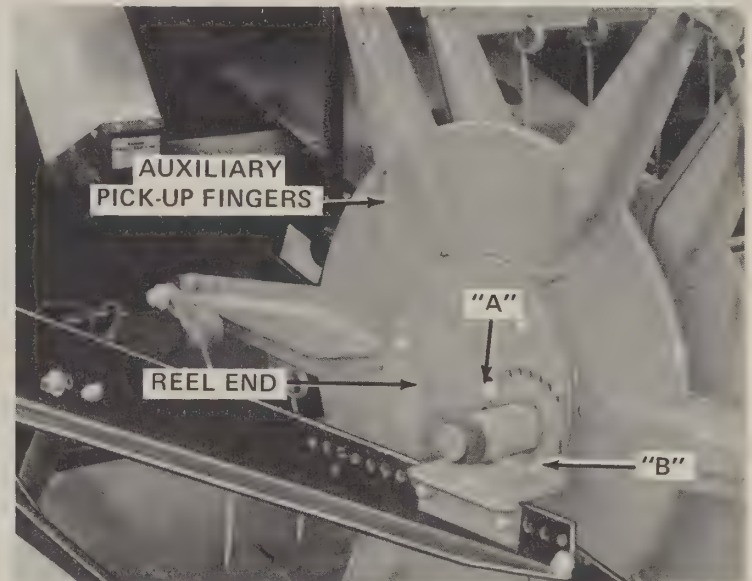


FIG. 4

hydraulic reel lift, the reel height is changed by turning the reel height adjusting screw.

The reel can also be moved forward or set back on the reel support arms.

Fig. 2

To reposition reel - Loosen reel drive belt, remove bearing keepers and slide reel on support arms. Replace bearing keepers. Reset drive belt tension.

HUME REEL - Fig. 4

If fingers are pitched too much the crop carries around with the reel and wrapping results. To adjust pitch of fingers remove capscrew (A) and loosen capscrew (B). Turn reel end to obtain

ADJUSTMENTS (Cont'd)

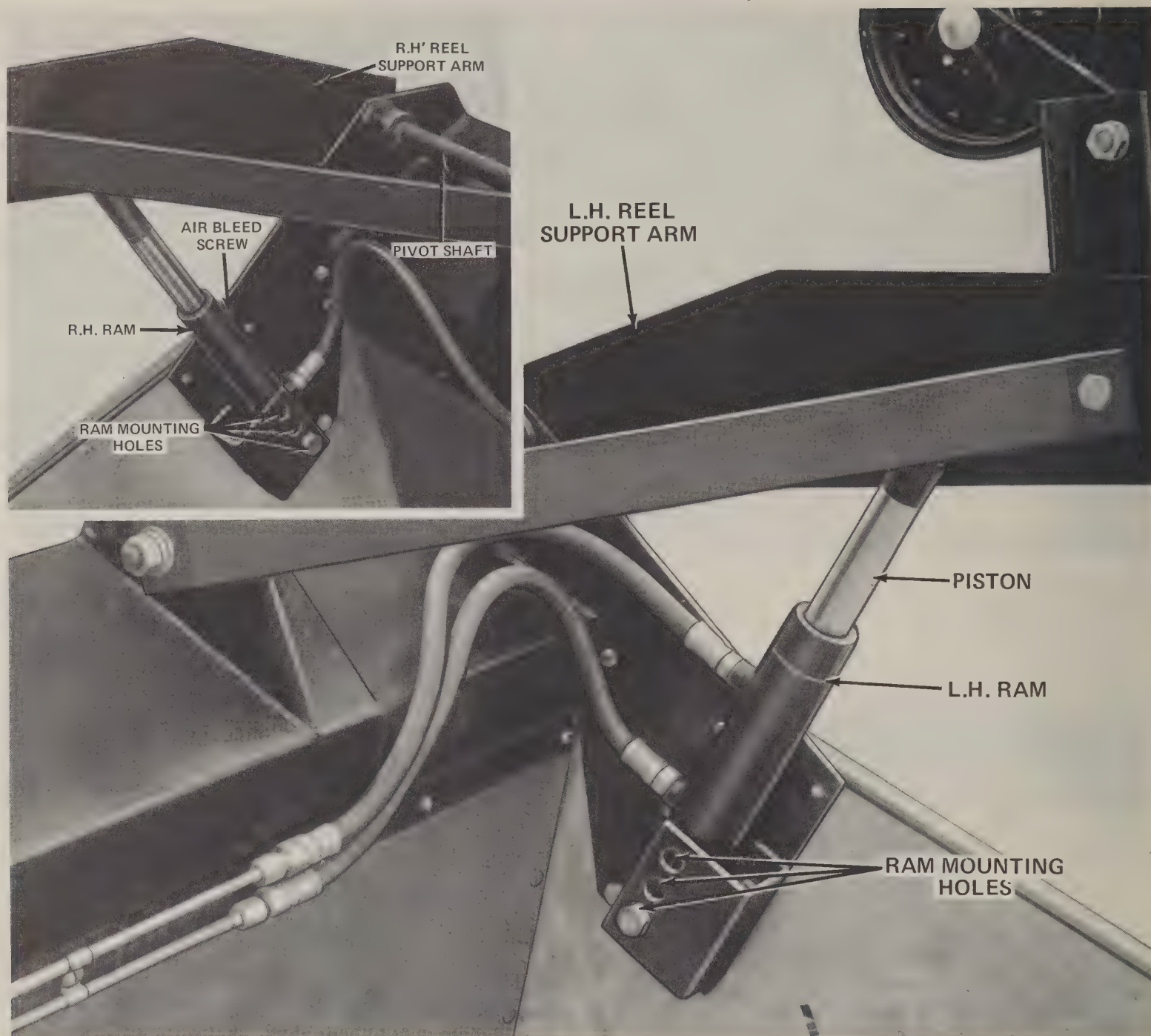


FIG. 5

desired pitch and replace capscrew (A). Tighten capscrews before operating. Auxiliary pick-up fingers should align with fingers on bats.

When reel is used to pick up down material set angle of bats so teeth shed material in front of auger. Set height of reel so ends of fingers are about 2" below sickle level. Check height of reel when rams are fully collapsed to be sure that reel fingers do not get into sickle. There is available as an attachment a heavy duty reel arm kit which is recommended for use with the Hume reel.

Position reel on arms so fingers just miss sickle as reel rotates. The fingers must wipe cutter bar for even feed.

When cutting standing grain straighten bats and raise reel so bats fully contact heads of grain.

HYDRAULIC REEL LIFT - Fig. 5

The L. H. reel lift ram is double acting and has incorporated in it a rephasing feature or automatic leveling device.

To level reel, raise and lower the reel completely so that the reel lift rams travel to their extreme positions.

If reel frequently becomes unlevel, see your ALLIS-CHALMERS Dealer.

ADJUSTMENTS CARE OF CUTTING MECHANISM

WEAR PLATES - Fig. 6

Wear plates are provided as an efficient means of maintaining alignment between sickle and drive. As the plates wear the sickle is moved farther to the rear causing misalignment. To correct move plates forward to support sickle but not forward far enough to bind sickle. Make sure when making this adjustment that sickle is positioned all the way to the right.

Replace any wear plates when approximately 1/2 of their wear surface is worn away. It may sometimes be necessary to replace all wear plates so that sickle has a uniform surface to operate against.

The first two wear plates should always be driven back when installed new.

HOLD DOWN CLIPS - Fig. 6

Replace hold down clips when they become worn to extent that proper adjustment is impossible and sickle can not be held down in position. Drive hold down clips down until there is 1/64" clearance between clips and sickle sections.

GUARDS - Fig. 6

Check guard alignment. Use a pipe large enough in diameter to slip over the end of guard when straightening guards.

Check cutting edge of guards. Replace guard if cutting edge is dull or if guard is broken.

SICKLE - Figs. 6 & 7

For efficient cutting the sickle should be sharp and properly adjusted. The tip of each sickle section must rest lightly on the guard. When sections become dull or broken, repair is needed.

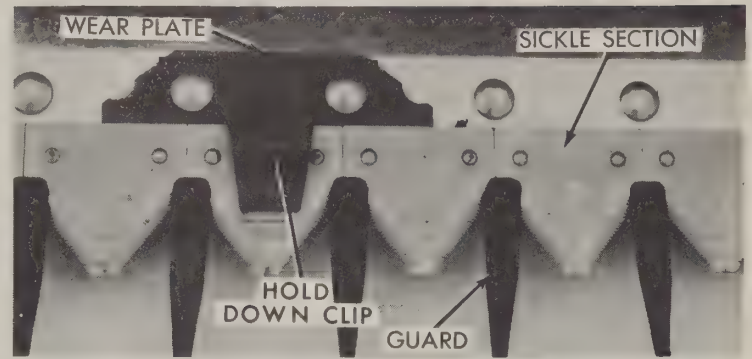


FIG. 6

(A) Removal - Remove upper support blocks. Loosen capscrews in lower blocks but do not remove blocks. Remove cotter pin and castellated nut from rod end that attaches sickle to bellcrank. Lift up on bellcrank and pull sickle from cutter bar.

(B) Repair - Check knife for straightness and remove any twists or bows that exist.

Replace worn or broken sections. Do not punch out rivets until they have first been sheared. The smooth or underserrated sections can be sharpened by maintaining their original beveled edge (approximately 1/4" wide).

Replace any sections that have been ground to a point at the front edge. Use the proper size rivets to rivet new sections to knife back. Be sure rivets are tight and are in proper relation to each other to prevent sickle from "growing" in length. Recheck knife for straightness.

(C) Installation - Push sickle into cutter bar. Place bellcrank over rod end and install castellated nut and cotter pin.

Reinstall upper support blocks. Check to see that sickle sections are down against guards.

ADJUSTMENTS (Cont'd) CARE OF CUTTING MECHANISM

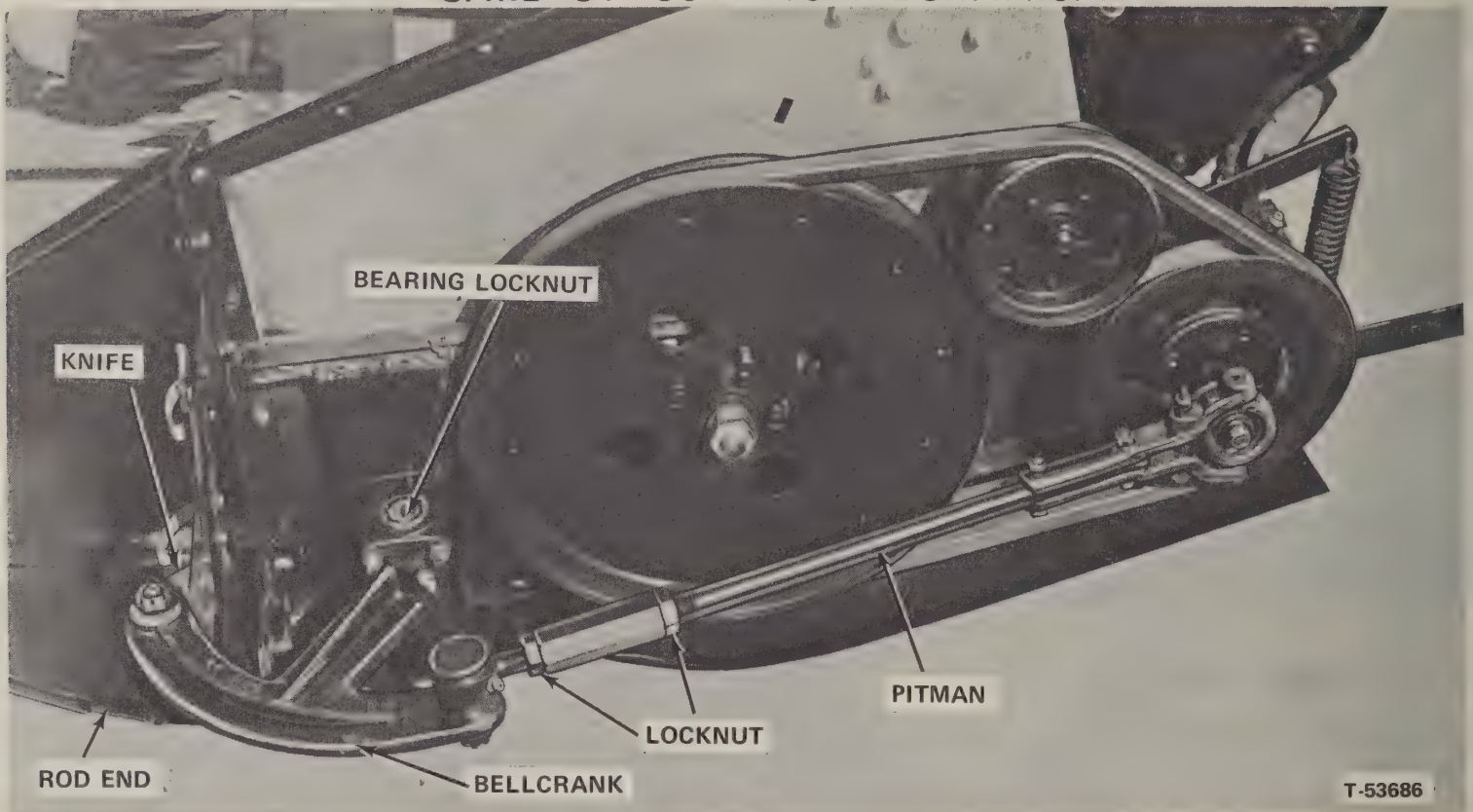


FIG. 7

SICKLE BELLCRANK - FIG. 7

The sickle bellcrank assembly contains two cone bearings. During normal operation of the combine the bearings may loosen and require adjustment. To adjust the bearings and to remove end play in the bellcrank assembly loosen the upper or lower support blocks.

Tighten the split locknuts on bellcrank pin until end play is removed but yet bellcrank can be turned freely. Once this adjustment is made, check to see that knife sections still properly contact guards. If sickle sections don't do so, then raise or lower the bellcrank assembly by

turning the split locknuts while maintaining bearing adjustment.

SICKLE TRAVEL - Fig. 7

The sickle sections must travel slightly beyond center of guards at each end of the sickle stroke. To obtain the correct sickle travel, lengthen or shorten the crank pitman by turning the turn-buckle.

IMPORTANT: This must be done to attain proper cutting and to avoid damage to parts. When auger drive belt tension is changed check sickle travel.

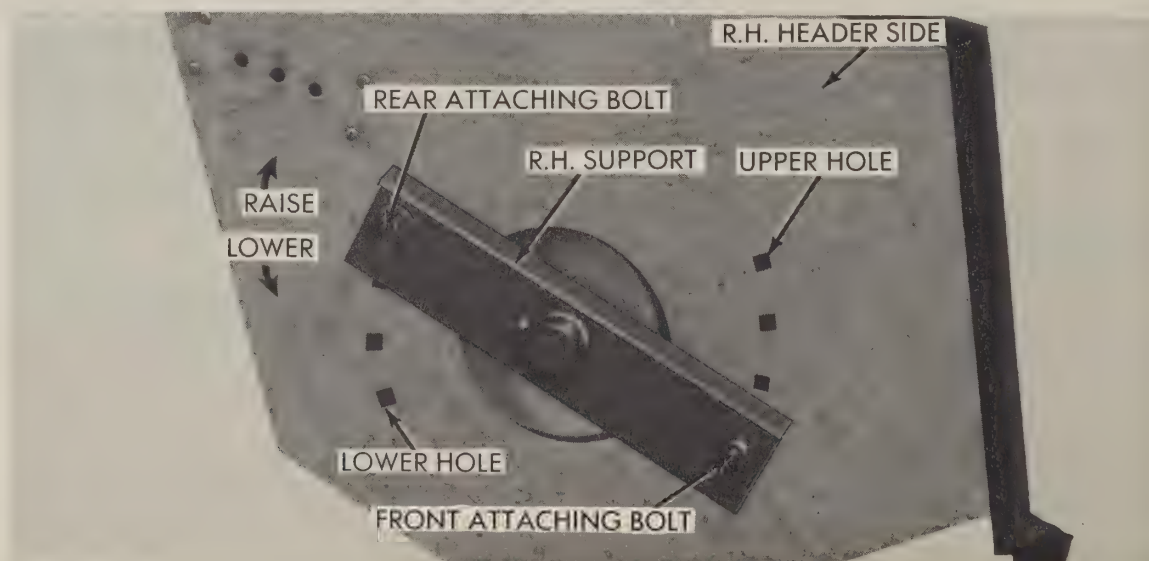


FIG. 8 - FINGER EXTENDED AUGER LOWERED

ADJUSTMENTS (Cont'd)

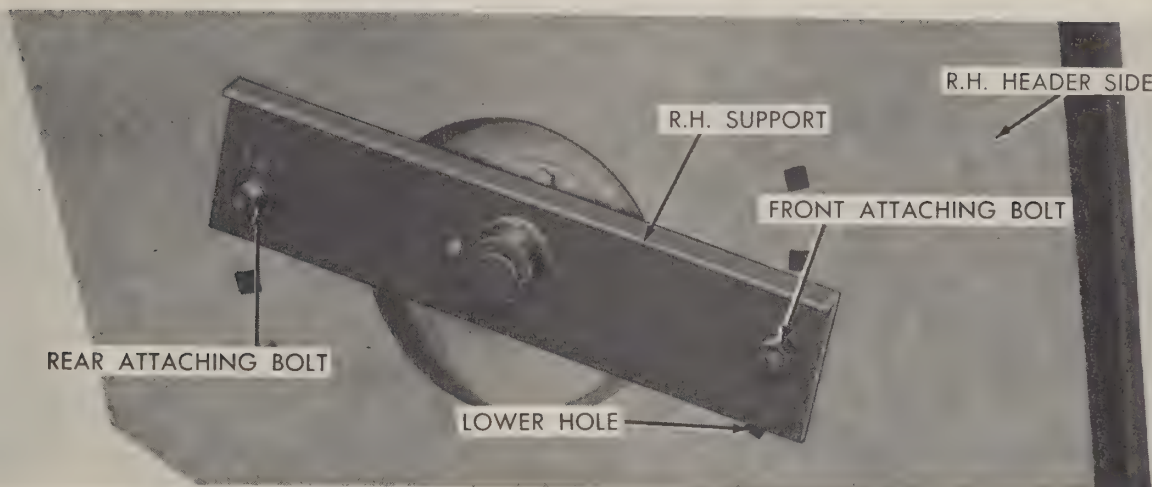


FIG. 9 - FINGERS RETRACTED-AUGER LOWERED

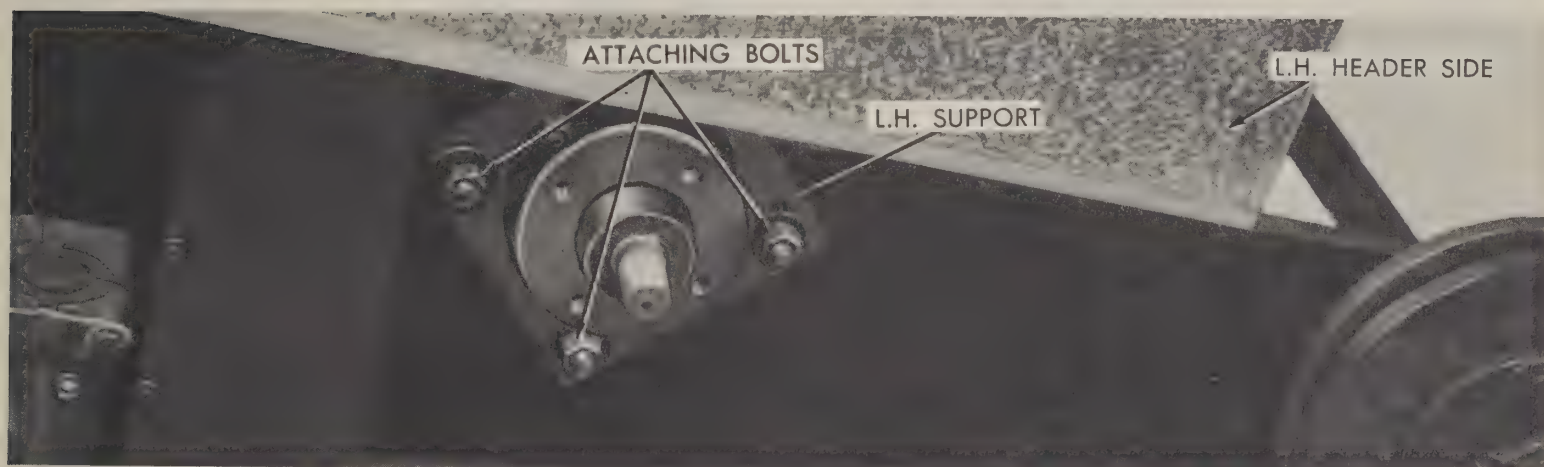


FIG. 10

HEADER AUGER - Figs. 8, 9 & 10

Auger can be operated in a raised or lowered position with fingers either extended or retracted. In heavy straw it is advisable to raise auger and retract fingers. In light or slippery straw the opposite would apply.

To raise auger for an additional 1/2" clearance, loosen R.H. support front and rear attaching bolts, raise rear of support and tighten bolts. Loosen L.H. support attaching bolts, raise support and tighten bolts.

To extend fingers closer to header bottom, remove R.H. support front and rear attaching bolts. Raise support and attach it to header side using upper attaching hole in header side at rear and lower hole in front.

Auger is in lowered position when it is installed at factory. This position meets most all field conditions.

FEEDER BEATER

The feeder beater is adjusted at the factory for average conditions. That is, it is mounted in the low position and fingers are set in center of adjustment range.

When combining in heavy straw conditions, it is advisable to raise feeder beater and/or change position at which fingers disappear.

The farther fingers extend in bottom position, the later the finger will disappear in rear position. Therefore, it may be necessary in tough light straw to operate with feeder beater lowered and fingers retracted, in relation to bottom position, to eliminate the possibility of feeder beater wrapping.

ADJUSTMENTS (Cont'd)

TO RAISE FEEDER BEATER - Figs. 11 & 12

To raise feeder beater, remove R.H. and L.H. bearing plate attaching bolts, refasten plates, using lower set of holes. Lengthen feeder beater drive chain.

After the feeder beater is raised, remove the thresher housing cover and raise the dust shield assembly.

FEEDER BEATER SLIP CLUTCH - Figs. 11A & 11B

If feeder beater is properly installed in combine with bearings on the R.H. side tight to shoulder on gudgeon shaft and locked in place with locking ring, the following is the correct procedure for adjusting feeder beater slip clutch for normal load.

1. Remove slip clutch assembly from shaft.
2. Install two #1136371 washers on the shaft next to bearing collar on R.H. end of feeder beater shaft.

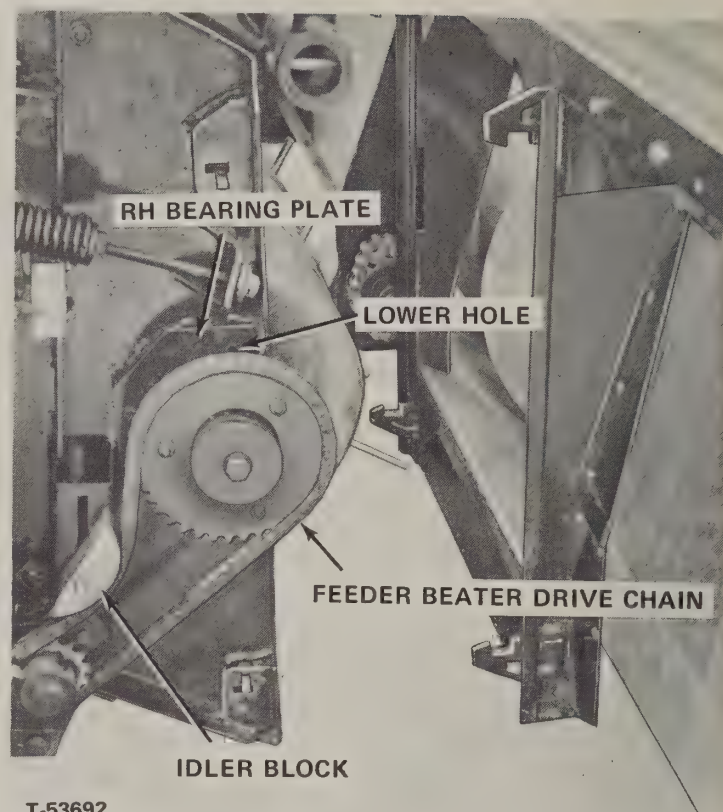


FIG. 11

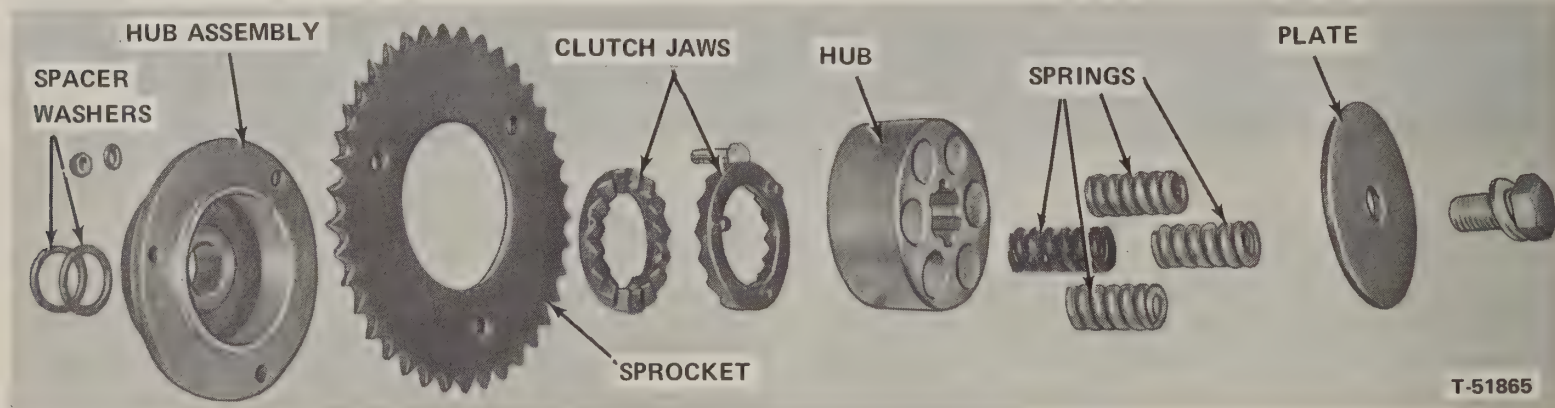


FIG. 11A

3. Install sprocket assembly on gudgeon shaft.
4. Inspect slip clutch jaws for wear and re-install if in good condition.
5. Install splined slip clutch hub with springs and tighten capscrew.
6. Measure from inside face of slip clutch plate to outside edge of hub assembly. This dimension at Fig. 11B, position "D" should be 1/4". If more than 1/4" add special washer #1136371; if less, remove washers at Fig. 11B, position "C", as required to get the correct dimension.

NOTE: DO NOT add washers under springs.

To set clutch operate under normal load, adjust spring tension as follows:

Measure distance at "D", Fig. 11B, it should be 1/4" to 5/16". If more or less, remove washers to increase space, add washers to decrease space at "C", Fig. 11B.

To check feeder beater clutch assembly for wear in hub assembly or clutch jaws, remove hub and wash and clean holes for the springs. Clean all dirt from spring coils. Reassemble and adjust (Fig. 11B). Disassemble and clean before the start of each season.

FINGER CLEARANCE & DISAPPEARANCE Fig. 12

There are six holes in the feeder beater shaft mounting flange. When flange is attached, using the upper front and lower rear holes the maximum clearance is available beneath fingers and finger disappears sooner in rear position.

ADJUSTMENTS (Cont'd)

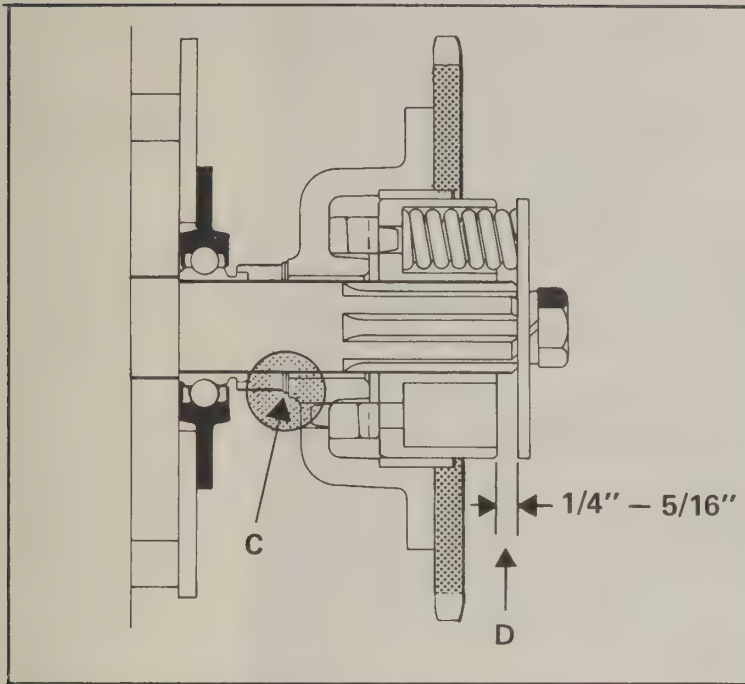


FIG. 11B

The opposite is true when flange is fastened, using upper rear and lower front holes.

To increase or decrease clearance below the fingers and at same time change disappearance point, remove flange attaching capscrews and turn flange clock or counter-clockwise to align another set of holes, then replace the capscrews.

FEEDER BEATER DRIVE CHAIN - Fig. 11

Remove slack from feeder beater drive chain by moving wooden block inward against chain. Do not overtighten chain. This will only cause excessive wear of block and chain.

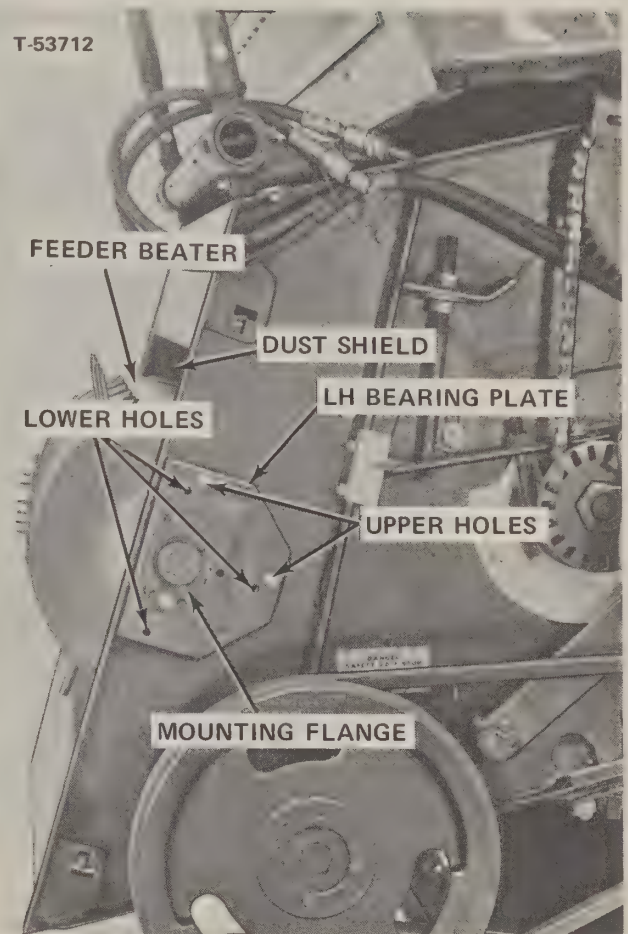


FIG. 12

POSITIONING OF IDLER BLOCKS - Fig. 11

Idler blocks are positioned, so that long end of block is toward direction of chain travel and block is tilted so chain rides with wood grain and over long end.

ADJUSTMENTS (Cont'd)

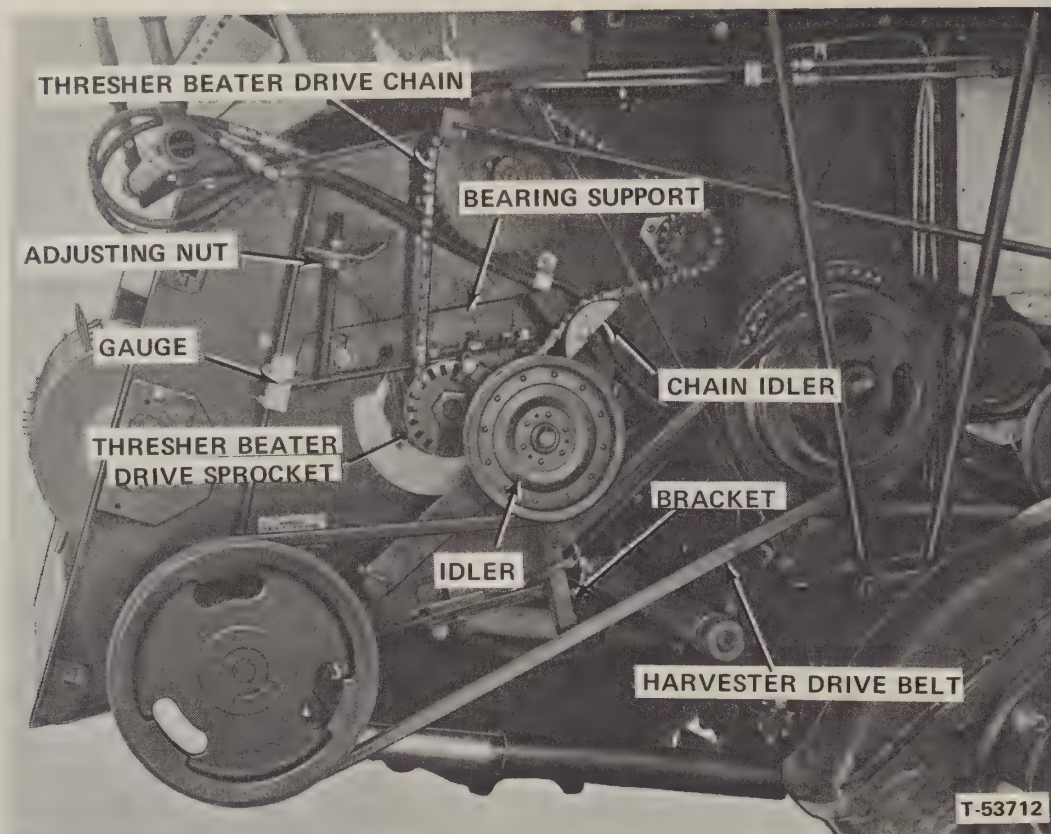


FIG. 13

THRESHER BEATER DRIVE CHAIN - Fig. 13

The tension on this chain is set by repositioning the chain idler. The idler should be set against chain, so chain will not whip or tend to follow sprocket. Do not overtighten chain or unnecessary wear on chain and idler will occur.

HARVESTER DRIVE BELT - Fig. 13

Tension is maintained by spring loaded idler working against top of belt. Tension is increased by moving strap fastened to spring farther down on bracket. Set idler tight enough to drive normal header load.

HARVESTER DRIVE CHAIN -

Remove slack from harvester drive chain by moving idler in against chain. Do not overtighten chain or unnecessary wear on chain and idler will occur.

TO RAISE OR LOWER CYLINDER - Fig. 13

It is necessary to raise or lower the cylinder to properly thresh various crops in varying conditions. To adjust, loosen nuts on bolts through bearing support on L.H. and R.H. side. Relieve tension on thresher beater chain and cylinder

drive chain. (The combine may be equipped with a cylinder drive chain (optional) instead of a cylinder drive belt). This must be loosened to adjust cylinder height.

Turn adjusting nuts on L.H. and R.H. side evenly until desired clearance is obtained. Make sure, when adjusting, to keep cylinder level. Adjust drive chains. Cylinder bar life can be doubled by turning cylinder end for end when excessive wear is evident on one side of bars.

TO LEVEL CYLINDER - Fig. 13

It is advisable to periodically check levelness of cylinder and accuracy of cylinder clearance gauges. Loosen R.H. and L.H. bearing support attaching bolts. Relieve tension of drive chains. Lower cylinder evenly until high spot of a cylinder bar contacts high spot of No. 2 concave. Set gauges at zero. Raise cylinder to desired clearance. Tighten support bolts and set chain tension.

THRESHER BEATER DRIVE SPROCKETS (25T, 30T, 35T) - Fig. 13

As the cylinder speed is reduced the speed of the thresher beater is also lowered.

When cylinder is operated at 600 RPM or under

the speed of the thresher beater is generally not sufficient to properly move material to the rear. This can cause beater to wrap and also put an excessive load on the raddle.

In order to overcome this, the different drive sprockets are available to speed up the thresher

beater in relation to cylinder speed. It is recommended that a 25T sprocket be used at 600 RPM, a 30T at 400 RPM and a 35T at lesser cylinder speed.

CAUTION: Be sure correct drive sprocket is installed when speed is increased or seed crackage can occur.

ADJUSTMENTS (Cont'd)

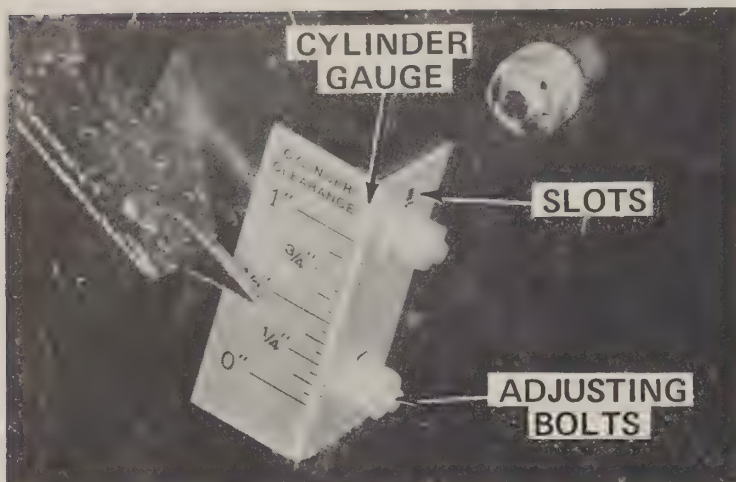


FIG. 13A

TO LEVEL CYLINDER (Fig. 13A)

It is advisable to periodically check levelness of cylinder and accuracy of cylinder clearance gauges. Loosen R.H. and L.H. bearing support attaching bolts. Relieve tension of drive chains. Lower cylinder evenly until high spot of a cylinder bar contacts high spot of No. 2 concave. Set gauges at zero. Raise cylinder to desired clearance.

Tighten support bolts and set chain tension.

CYLINDER BAR REMOVAL

Lower header and remove thresher housing cover from thresher housing.

Remove cylinder bar attaching bolts and lift cylinder bar from cylinder.

Rotate cylinder to remove bars.

INSPECTION - Figs. 14 & 15

Check bars for excess wear on leading edge.

Excessive wear of cylinder bars may be indicated by improper feeding of material at cylinder or incomplete threshing of grain when combining is in operation.

If combine has been operated with the cylinder set at the correct height, a wear pattern similar to that illustrated in Fig. 14 may be evident.

In this instance, one can turn the cylinder bar 180° and obtain use from the less worn trailing edge.

If combine has been operated extensively with the cylinder set too high, a wear pattern similar to that illustrated in Fig. 15 may be evident.

When a cylinder becomes worn excessively in a pattern similar to one illustrated in Fig. 15, the bars should be replaced with a new set.

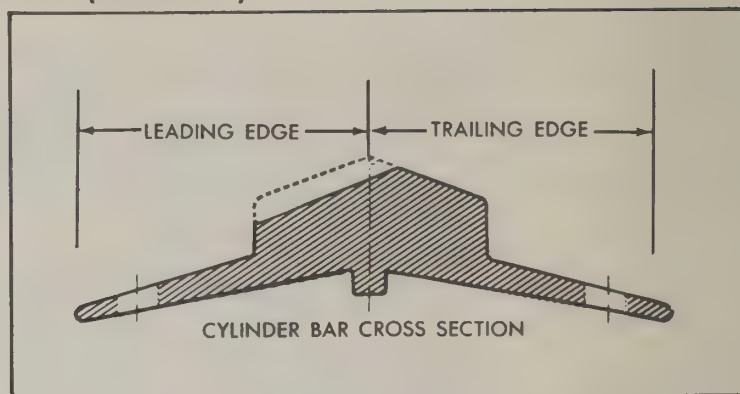


FIG. 14

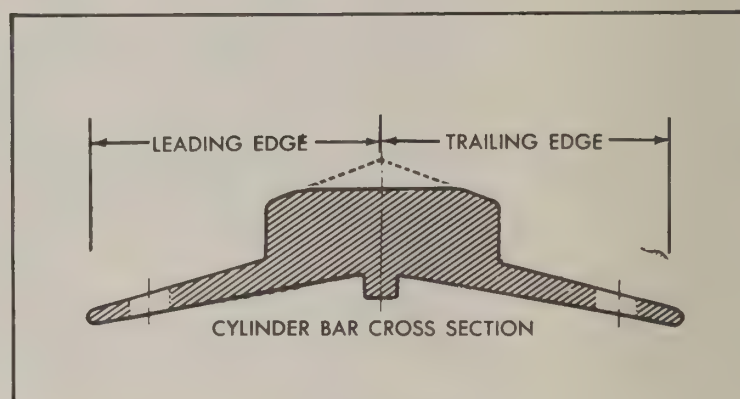


FIG. 15

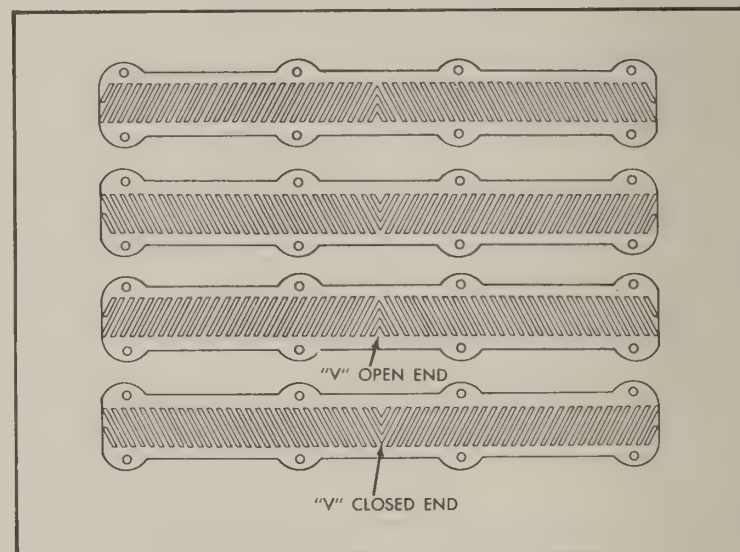


FIG. 16

REPLACEMENT - Fig. 16

Cylinder bars are purchased and should be replaced in balanced pairs. When any one cylinder bar is replaced, the one directly on the opposite side of cylinder should be replaced. This helps to maintain proper balance of cylinder.

Bars are installed so that "V" formed by ribs on cylinder bar has its open end leading on one bar and trailing on the next one. When all cylinder bars are installed according to this pattern, every other cylinder bar will have the open end of "V" at the leading edge.

Always use new cylinder bolts when rotating or installing new cylinder bars.

ADJUSTMENTS (Cont'd)

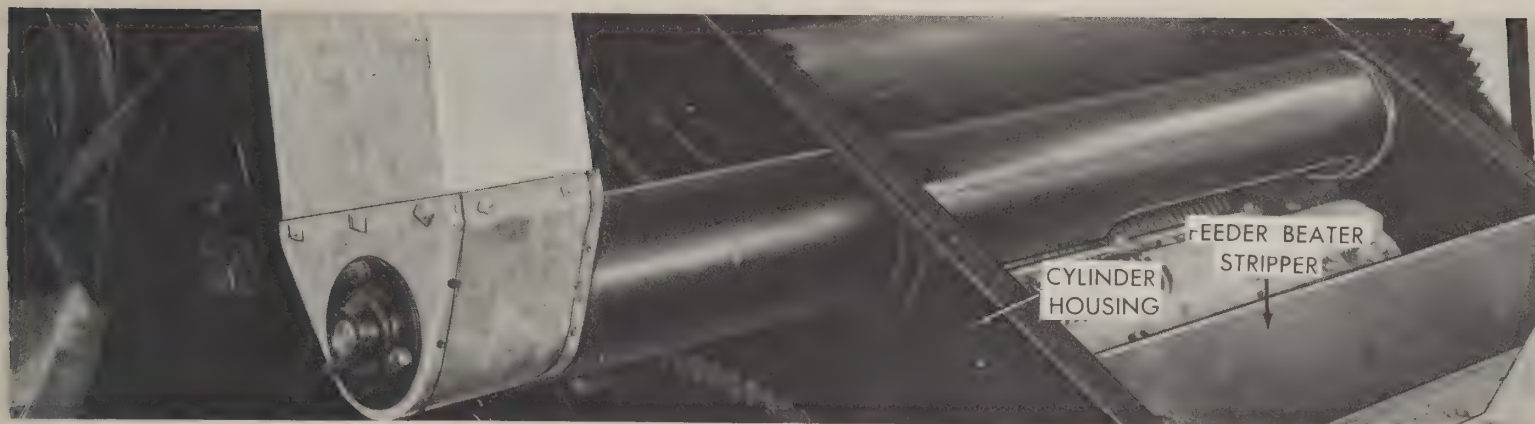


FIG. 17

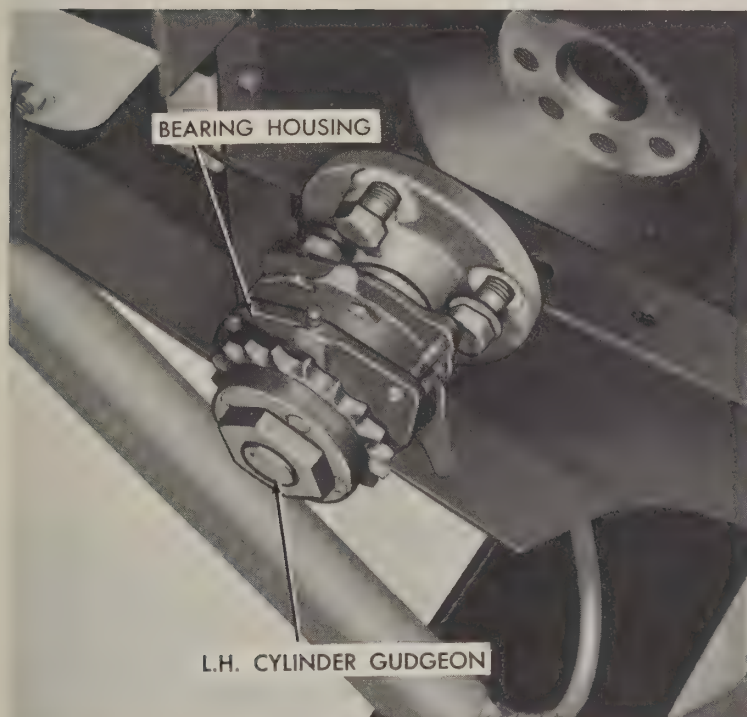


FIG. 18

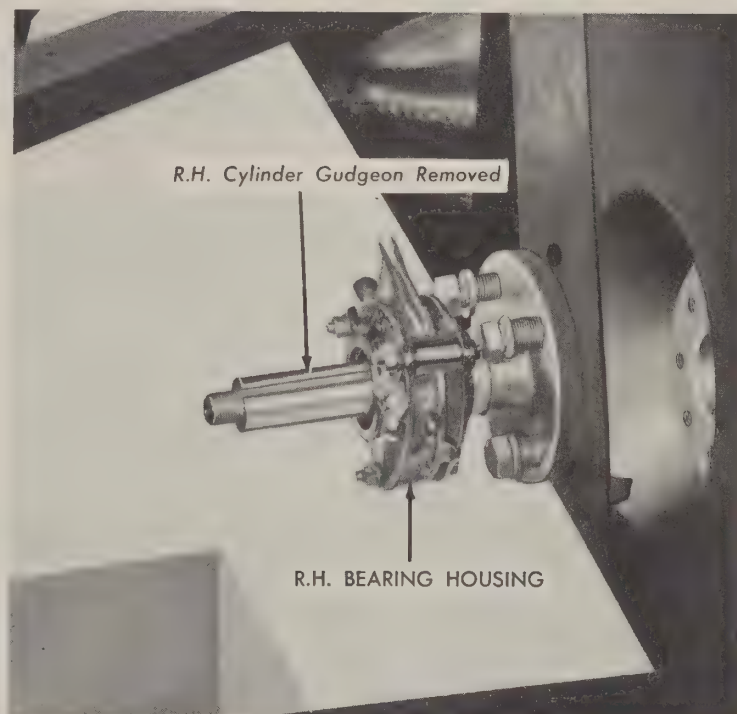


FIG. 19

CYLINDER REMOVAL - Figs. 17, 18 & 19

Remove threshing housing cover, threshing beater drive chain and cover around L.H. cylinder gudgeon.

Loosen setscrew in hub of sprocket on L.H. end of tailings return auger and pull the sprocket from auger shaft. Remove woodruff key.

Remove the three carriage bolts which attach the bearing support and L.H. bearing flanges to L.H. side of threshing housing.

Loosen setscrew in L.H. bearing locking collar, loosen collar in opposite direction of shaft rotation and pull L.H. bearing from auger shaft.

On R.H. side of threshing housing, separate the tailings return elevator at upper telescoping chute section. The threshing housing should be lowered for ease of separating chute.

Remove bolts that attach flange on tailings return auger housing to R.H. side of threshing housing. Pull the tailings return auger and housing as a unit, out through the R.H. side of threshing housing.

Remove sheet metal screws attaching cover around R.H. cylinder gudgeon and remove cover.

Separate and remove cylinder drive chain or remove drive belt.

Remove feeder beater stripper and dust shield at front of cylinder.

Remove the 4 capscrews that bolt the L.H. gudgeon assembly to L.H. end of cylinder.

Remove nuts from "U" bolt holding L.H. gudgeon assembly in place. Remove "U" bolt, L.H. gudgeon and spacers.

ADJUSTMENTS (Cont'd)

Remove (4) capscrews that bolt the R.H. gudgeon assembly to R.H. end of cylinder.

Remove nuts from "U" bolt, remove "U" bolt, R.H. gudgeon and spacers from R.H. cylinder support.

Lift cylinder from thresher housing.

CYLINDER INSTALLATION - Figs. 17, 18, 19

When reinstalling the cylinder, the operator may want to turn the cylinder end for end, so that the less worn trailing edge of the cylinder bars now become the leading edge. Thus, additional life is obtained from the cylinder bars.

Set the cylinder in the thresher housing and bolt the L.H. and R.H. gudgeon assemblies to the cylinder ends.

Install the "U" bolts. Tighten nuts on "U" bolts to 45-55 ft. lbs. torque.

Install the feeder beater stripper and dust shield at front of cylinder.

Install the L.H. and R.H. gudgeon covers using sheet metal screws (#12 x 1/2").

Install the tailings return auger assembly through the R.H. side of thresher housing. Bolt flange on auger housing to R.H. side of thresher housing.

Place the bearing support on L.H. end of auger shaft. Place bearing between bearing flanges and slide bearing assembly onto auger shaft.

Place carriage bolts through from the inside and bolt the bearing support and bearing flanges to L.H. side of thresher housing. Install bearing locking collar.

Install woodruff key, slide sprocket onto auger shaft and tighten setscrew in hub of sprocket. Long hub on sprocket should be out.

Connect the telescoping section of the tailings return chute.

Install the cylinder drive chain or belt on R.H. side of thresher housing and the thresher beater drive chain on L.H. side.

Bolt thresher housing cover to top of thresher housing.

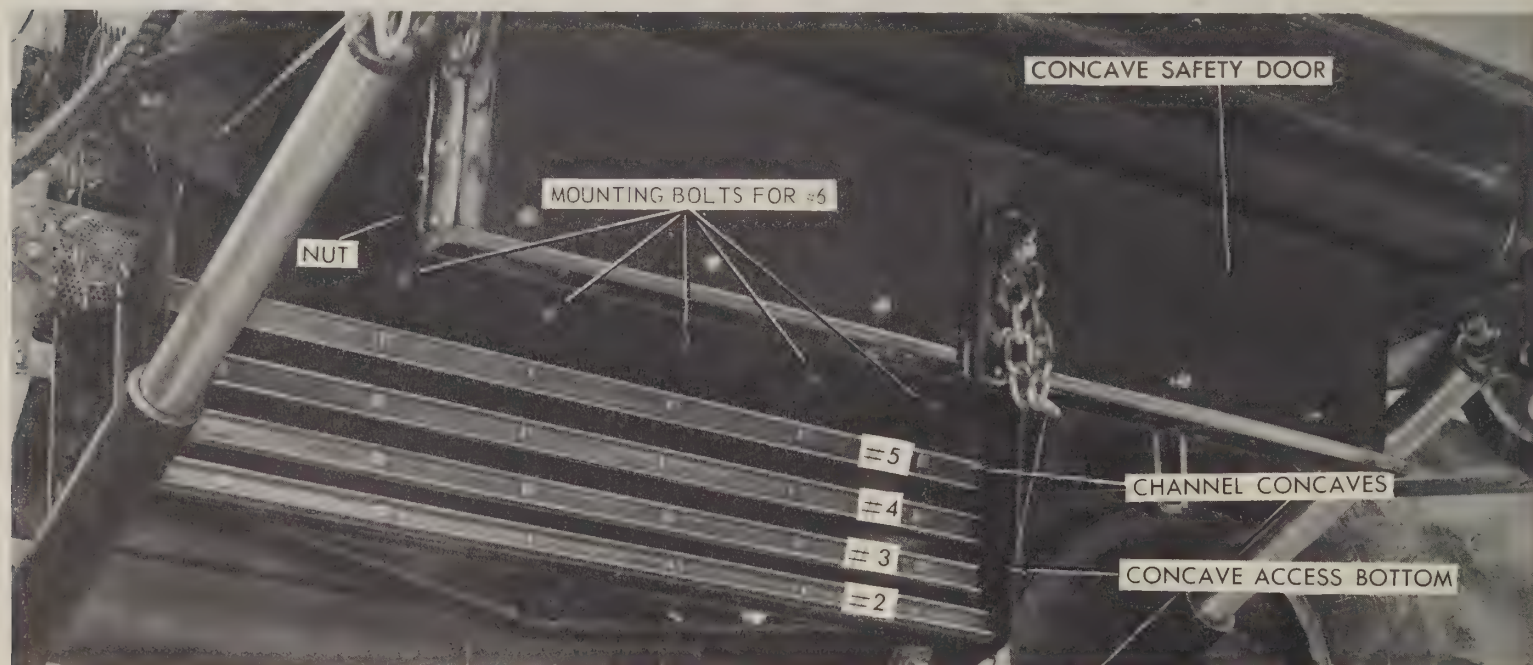


FIG. 20

CYLINDER HOUSING - Fig. 20

CONCAVE SAFETY DOOR AND ACCESS BOTTOM

In the bottom of the cylinder housing there is a concave safety door and a concave access bottom.

The concave door is a safety device. It protects the cylinder and housing from damage by automatically opening and ejecting unwanted material.

The concave door in conjunction with the concave access door offers easy access to the concaves.

PROCEDURE FOR REMOVING CONCAVES Fig. 20

There are five removable concaves. Number one is on the door and should be the last one removed. When it is necessary to take out concaves open the concave door then remove the two bolts that

ADJUSTMENTS (Cont'd)

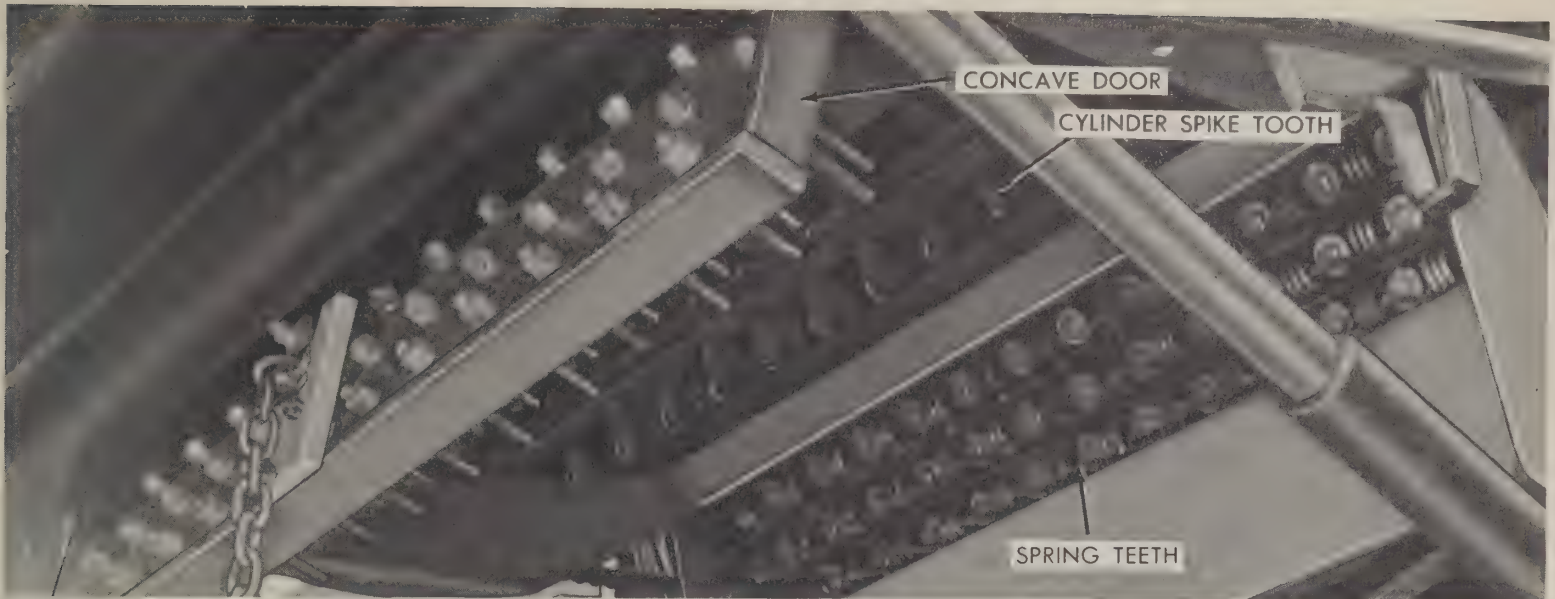


FIG. 21

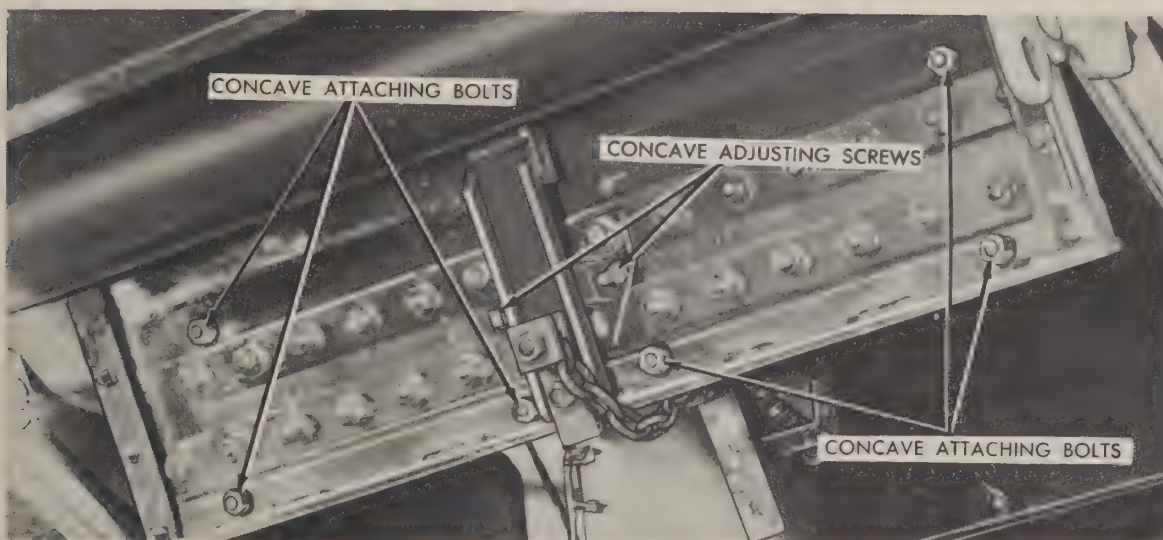


FIG. 22

fasten the concave access door and swing the door down. The sequence for concave removal should be as follows: No. 2-4-5-3-1. Use only enough concaves to get complete shelling. Use of more only causes over threshing. Whenever a concave bar is removed bolts should be re-installed in the attaching holes.

A sixth bar can be added in the rear. This is recommended for some small seed crops when maximum threshing is needed. It can also be added for some crops that are hard to thresh but crack easily. With six bars the cylinder speed can be slowed down to minimize crackage.

SPIKE TOOTH CYLINDER AND CONCAVES (Substitute Equipment or Field Installation)

Fig. 21

For proper threshing spike teeth on cylinder should center between concave teeth. Concave can be moved to obtain this adjustment. To re-position concave, loosen attaching bolts then turn concave adjusting screws until cylinder teeth

are centered. Turn cylinder 360° and check clearance.

If concaves are not centered, cylinder spikes will pass closer to one side of concave spike. The decreased clearance can cause crackage and excess straw breakage while the side with the greater clearance will allow heads to pass through unthreshed.

SPRING TOOTH CONCAVES - Fig. 22

A spring tooth door is recommended for use with the spike tooth cylinder when operating over extremely rocky ground.

The cylinder to concave clearance is measured between bottom of tooth on cylinder and face of concave. Clearance is changed in same manner as machine with rasp bar cylinder.

If crackage occurs and there is proper clearance between spikes then it is advisable to remove as many teeth as necessary to secure satisfactory threshing. When teeth or concaves are removed be sure to replace attaching bolts.

ADJUSTMENTS (Cont'd)



FIG. 23

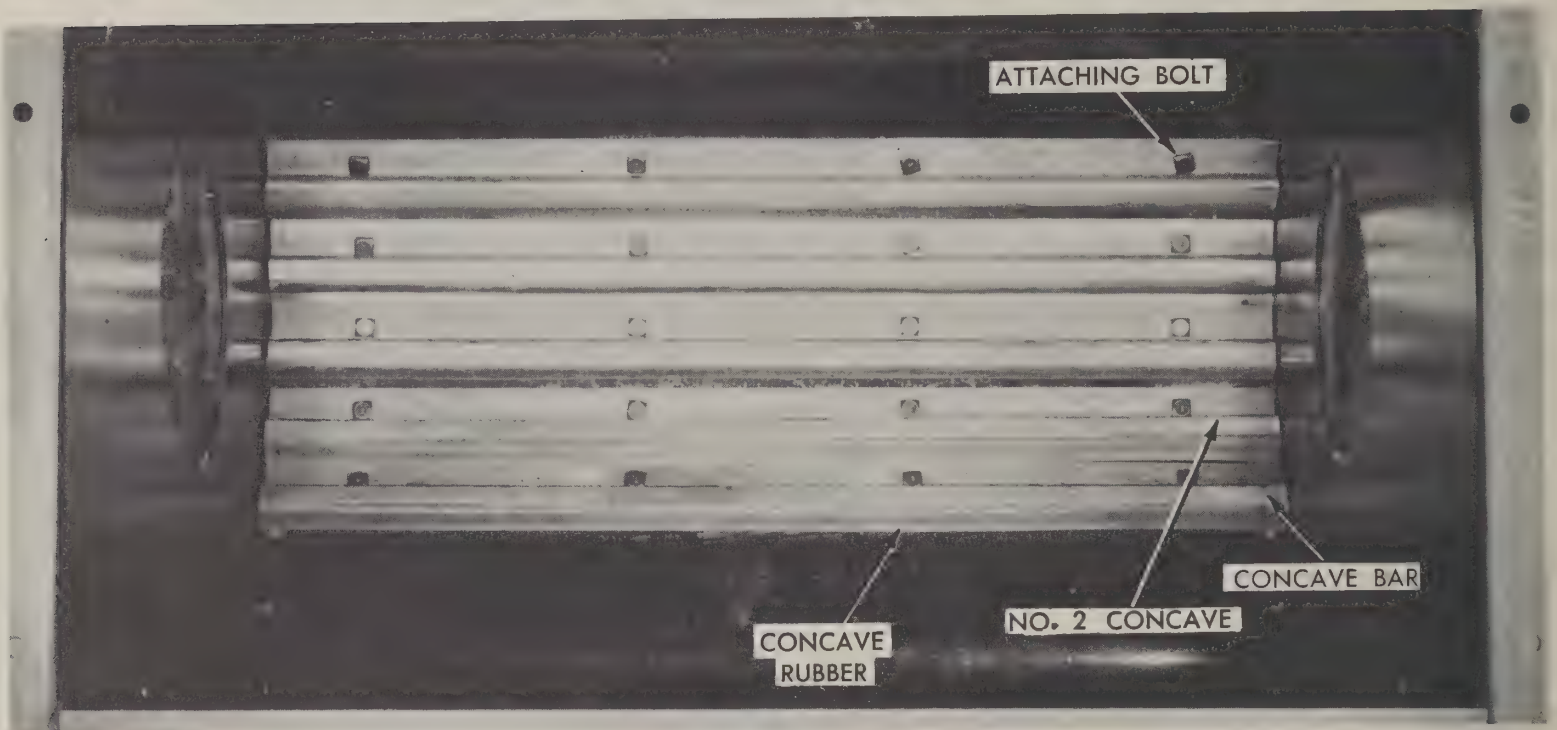


FIG. 24

RUBBER FACED CYLINDER BARS AND CONCAVES (Substitute Equipment) - Figs. 23, 24, 25

In a field installation rubber bars and concaves replace the original rasp bars and steel channel concaves.

When combining seed that cracks easily yet is fairly hard to shell it will be helpful to use both rubber and the half round steel concaves at the same time. Bolt them to the bottom of the cylinder housing alternately using as many as necessary to remove the seed. This combination will give soft hitting yet sufficiently aggressive shelling.

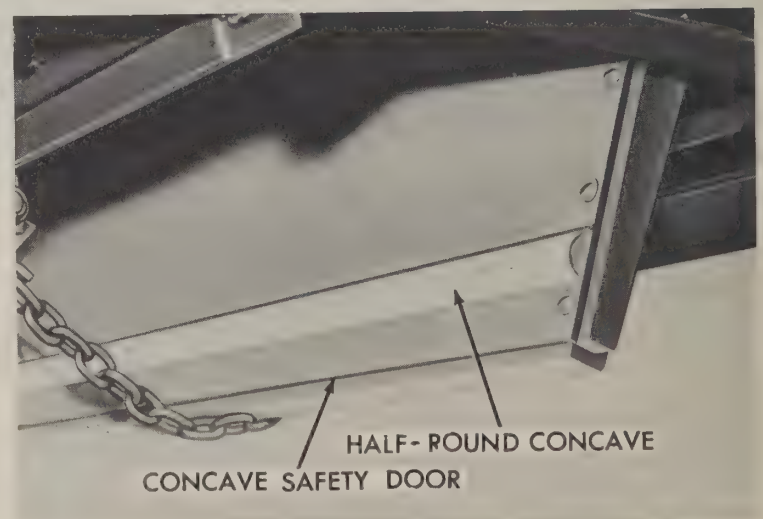


FIG. 25

ADJUSTMENTS (Cont'd)

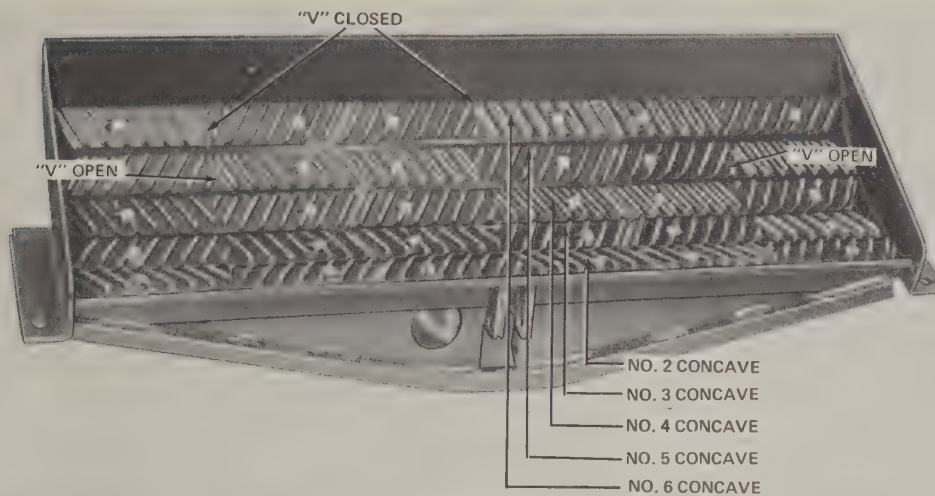


FIG. 25A

RASP CONCAVE (Fig. 25)

When installing 2 or more concaves alternate with each section open and closed. There are 3 sections for each concave bar.

ADJUSTMENT - DOOR LATCH (Figs. 26 & 27)

The door latch is most effective when the spring stud and latch assembly arms are parallel to a center line drawn between the center of capscrew in end of latch assembly and pin in end of spring stud.

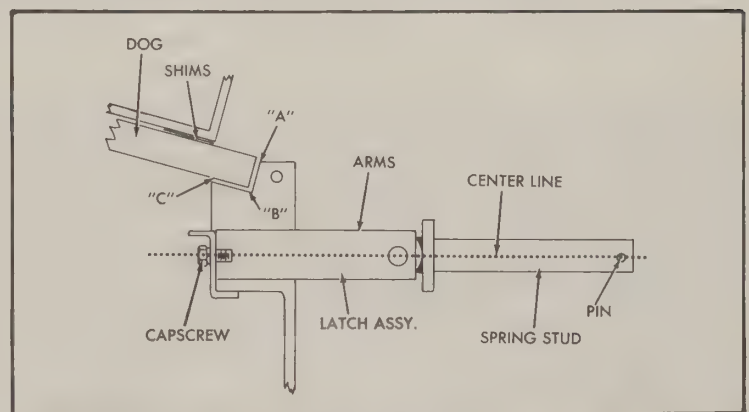


FIG. 26

When door is shut, the dog should be placed down into notch of latch assembly as far as is possible and still have door to open. One can place dog into notch too far, causing end of dog to contact with upper edge of notch in latch assembly at "A" as door begins to open. The latch assembly will then bind and prevent further opening of door. If this occurs, the dog must be moved back to just allow door to open.

Shims can be added or removed between bottom of door and top of dog to obtain relationship of latch assembly and spring stud as shown in Fig. 26.

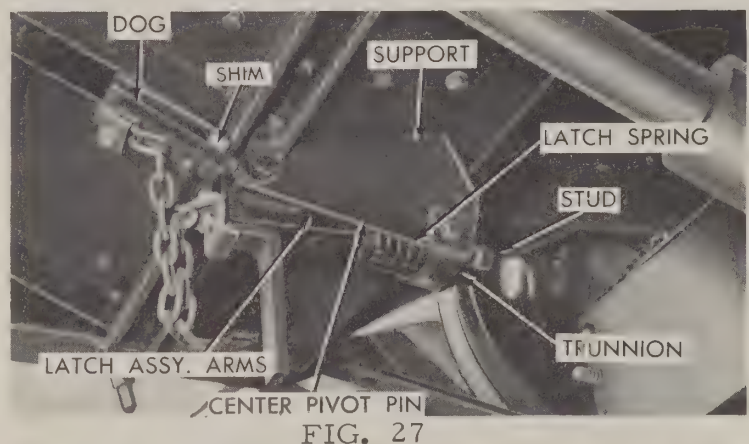


FIG. 27

When latch is properly adjusted and the door opens unnecessarily, increase latch spring tension by adding washers between trunnion and rear of spring. Do not however, add too many washers which will keep door from opening.

STOP ASSEMBLY (Fig. 28)

In order to prevent accidental lowering of the header the combine is equipped with a stop assembly. Whenever work is to be done under header stop should be lowered onto piston of header lift ram.



FIG. 28

ADJUSTMENTS (Cont'd)



FIG. 29

VARIABLE SPEED CYLINDER - Figs. 29

The cylinder is available with either a chain or belt drive. The standard belt drive provides cylinder speeds of 907 to 1385 R.P.M. To obtain speeds other than those within this range, optional cylinder sheaves are available and can be purchased through your Allis-Chalmers dealer. The following chart lists these optional cylinder sheaves and the speeds that can be obtained.

BELT DRIVE SPEED		
Sheave Size	High	Low
8.5"	1385	907
13"	908	596
20"	590	387

If slower cylinder speeds are needed than the 387 R.P.M., it will be necessary to convert to a chain drive for the cylinder.

CYLINDER SPEED CHAIN DRIVE		
Cylinder Sprocket R. H. Shaft	Speed Range RPM	
	High	Low
52 Tooth	715	425
66 Tooth	402	263

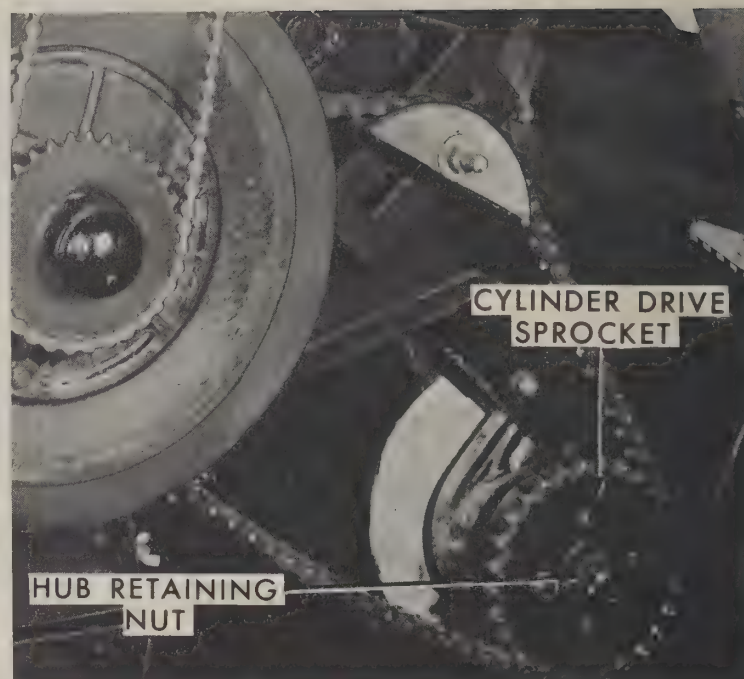


FIG. 30

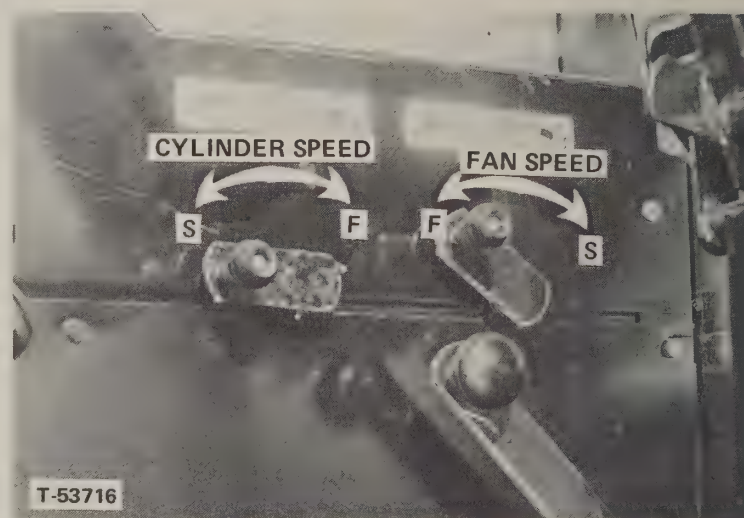


FIG. 31

SPROCKET INSTALLATION - Fig. 30

To change sprocket on R.H. cylinder gudgeon remove hub retaining nut. Take sprocket from hub and replace with sprocket that will give desired cylinder speed range. Replace washer and nut.

VARIABLE SPEED OPERATION - Fig. 31

To change cylinder speed have cylinder operating. Turn hand crank counter-clockwise to reduce speed and clockwise to increase speed.

ADJUSTMENTS (Cont'd)

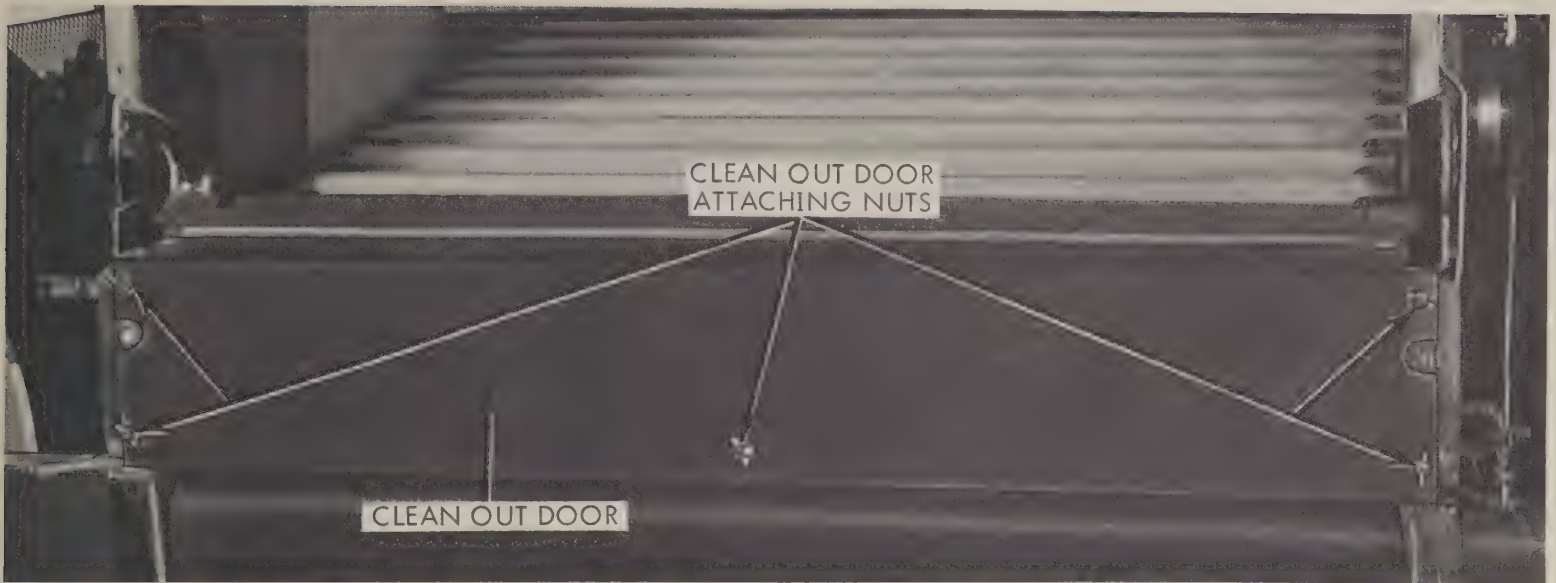


FIG. 32

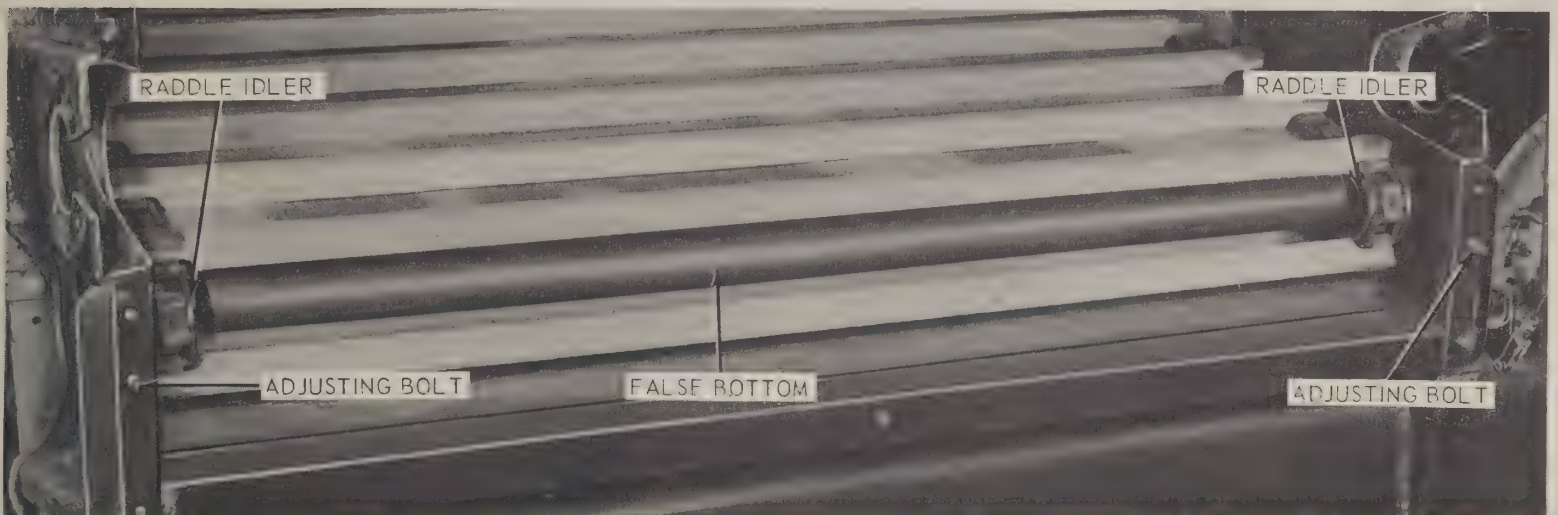


FIG. 33

RADDLE CHAIN ADJUSTMENT - Figs. 32, 33, 34

It is advisable to frequently check raddle chain tension in order to minimize wear and prevent breakage. Check tension by lifting slat. If there is less than 3" or more than 4" clearance between bottom of slat and false bottom, adjustment is needed. To adjust, loosen R.H. and L.H. take-up bracket attaching bolts and turn adjusting nuts clockwise to tighten chain. Check tension of chain after slide idlers are tightened. If there is no more adjustment left, remove a slat with a square link attached. It will be necessary to move slides to the rear position to hook up raddle chain.

RADDLE CHAIN SLIDE TYPE IDLERS - Fig. 33

When idlers have become excessively worn loosen idler attaching bolt, turn idler so round side is against chain.

RADDLE REMOVAL - Figs. 32 & 34

Raise and block header. Remove cleanout door.

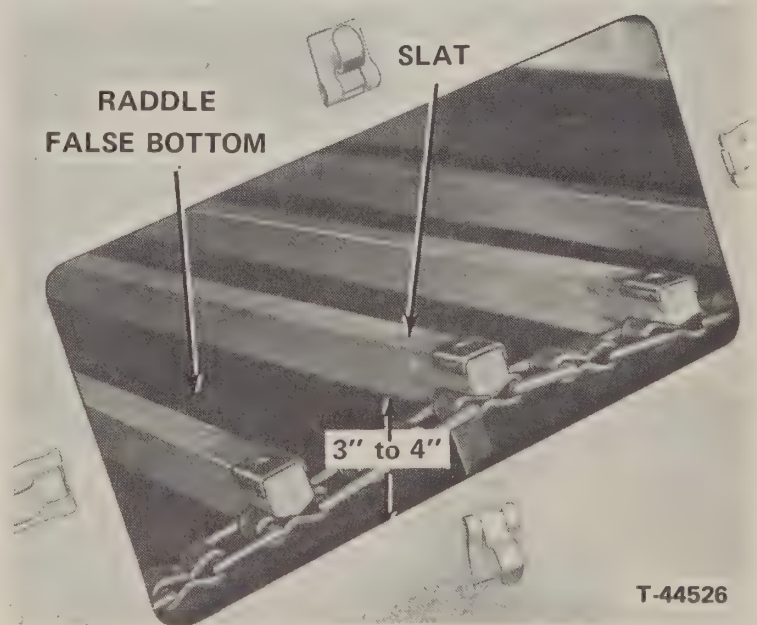


FIG. 34

Loosen raddle as much as possible. Separate raddle chain by spreading link on R.H. and L.H. side. Remove drive chain and pull raddle through cleanout door opening.

ADJUSTMENTS (Cont'd)

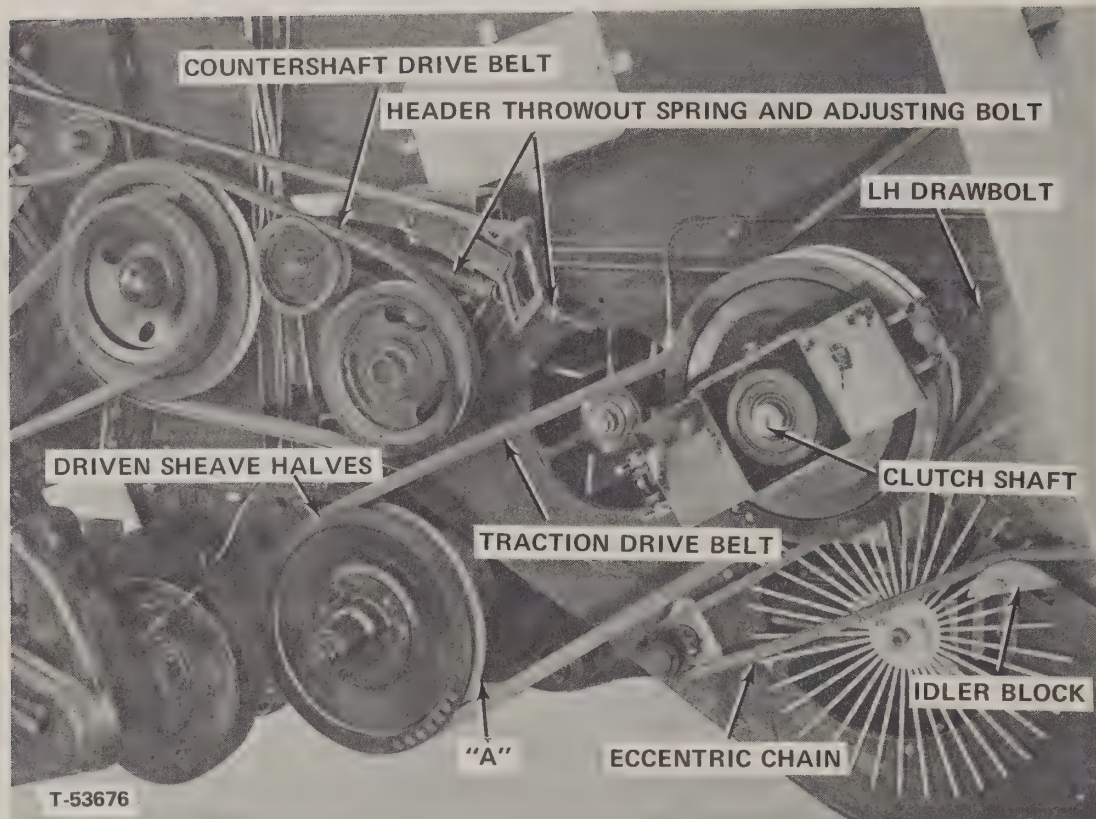


FIG. 35

TRACTION DRIVE BELT - Figs. 35 & 36

To determine when adjustment should be made, start engine and hold hydraulic speed control lever in rear position long enough to be sure that the variable speed drive is in the extreme low speed position. Stop engine and check clearance between hubs of driven sheave halves. There should be some clearance but it should not exceed $1/64$ " at the closest point. This clearance is increased by increasing belt tension. Make measurement at "A" between sheave halves.



Be sure engine is stopped before making measurement. Sheaves should be rotated when belt is tightened to prevent pinching of belt.

To tighten belt, loosen bolts on each side of combine that attach clutch shaft support plates. Turn adjusting nuts on drawbolts a few turns to move L.H. and R.H. ends of the clutch shaft to the rear. Move both ends of clutch shaft the same distance. The support plates should be loose enough, so that clutch shaft bearing flanges move on bearings.

Note that it may be necessary to readjust the tension on the countershaft drive chain on the L.H. side of combine and pivot drive belt on R.H. side of combine when the clutch shaft is moved rearward.

Tighten clutch shaft support plate bolts. Operate the traction drive through its full



FIG. 36

range and return sheaves to their low speed position. Check for clearance between the sheaves. If clearance is not specified, repeat above procedure until correct opening is obtained.

If rapid wear of the traction drive belt occurs the variable speed drive sheaves may need to be adjusted. Your local ALLIS-CHALMERS Dealer will make this adjustment for you.

ADJUSTMENTS (Cont'd)

ECCENTRIC DRIVE CHAIN - Fig. 35

Keep idler block against chain, so chain does not flop excessively, nor tend to climb the sprocket.

MAIN DRIVE BELT - Fig. 37

The main drive belt tension is self-adjusting through a spring loaded idler assembly. Adjust spring to 1/2" overall length.

If the spring loaded idler assembly runs out of adjustment on the main drive belt it may be necessary to move the engine rearward. To do this remove the 4 carriage bolts and move the engine rearward. It will be necessary to release the pressure on the idler assembly to move the engine. Also remove the main drive belt before attempting to move the engine.

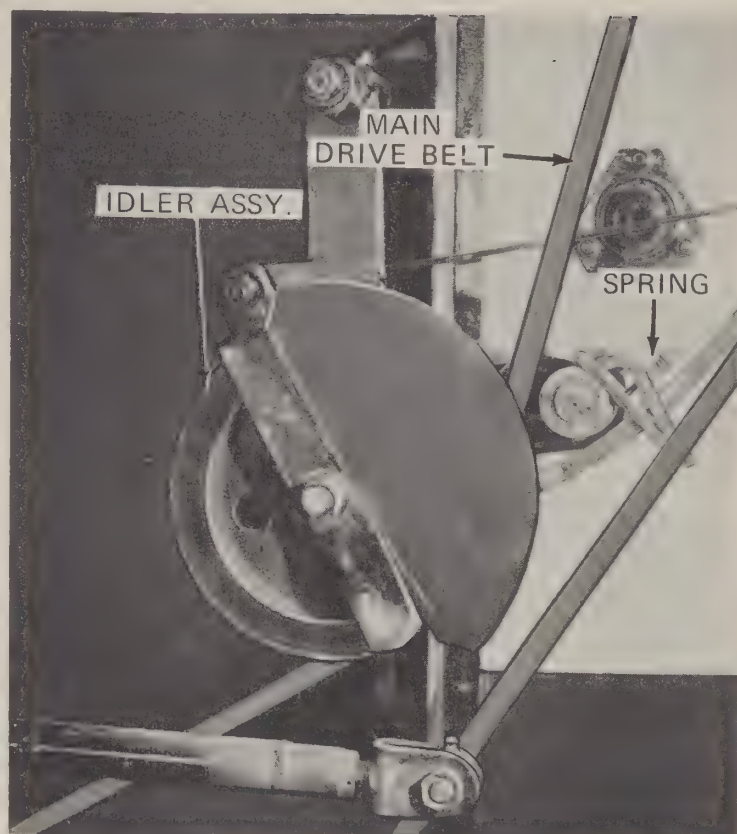


FIG. 37

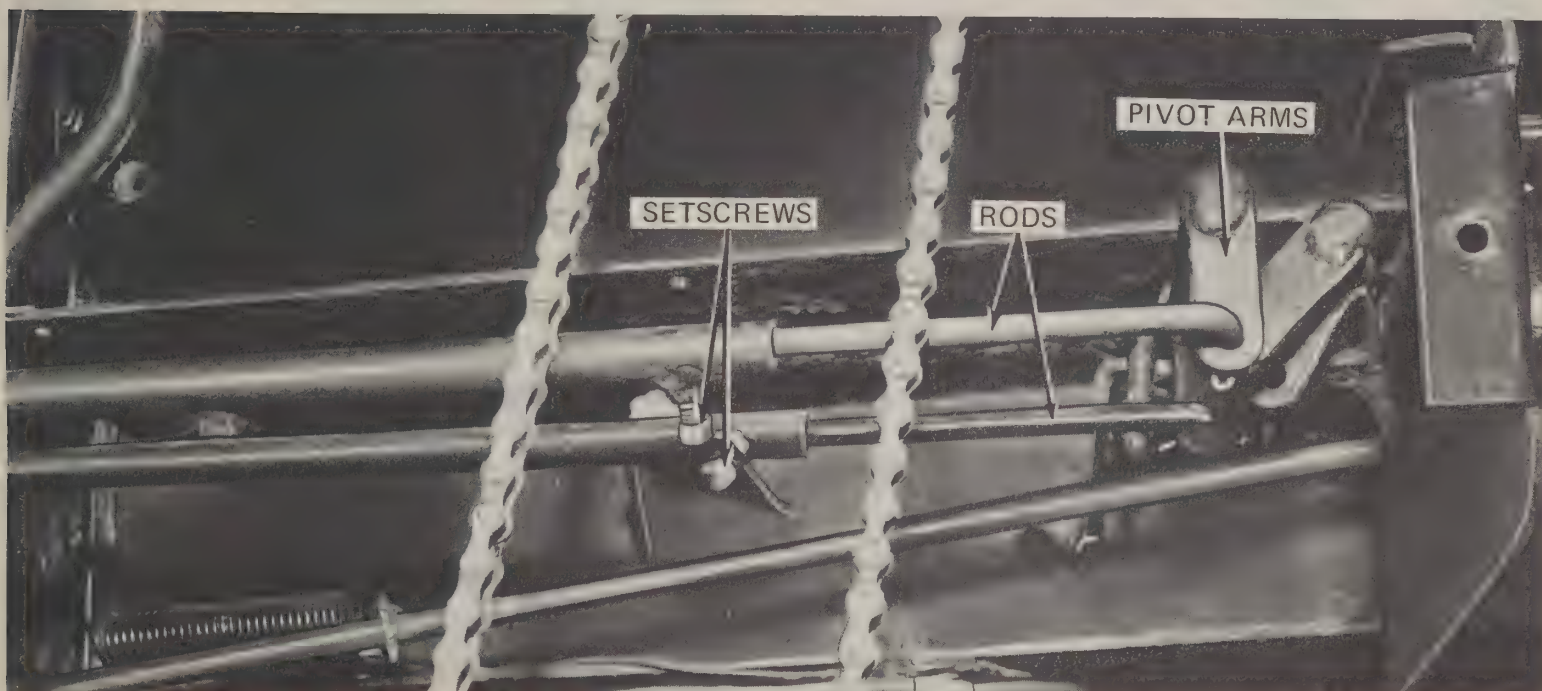


FIG. 37A

HYDRAULIC CONTROL LINKAGE - Fig. 37A

When the engine is moved it is necessary to readjust the control valve linkage.

The hydraulic control valve linkage is adjusted as follows:

Loosen setscrews in control rods, When the spools (to which rods are attached at control valve) are centered, the pivot arms at opposite end of rods should be straight up and down.

When the setscrews are loose slide the rods at the movable section. Retighten the setscrews when this adjustment is made.

ADJUSTMENTS (Cont'd)

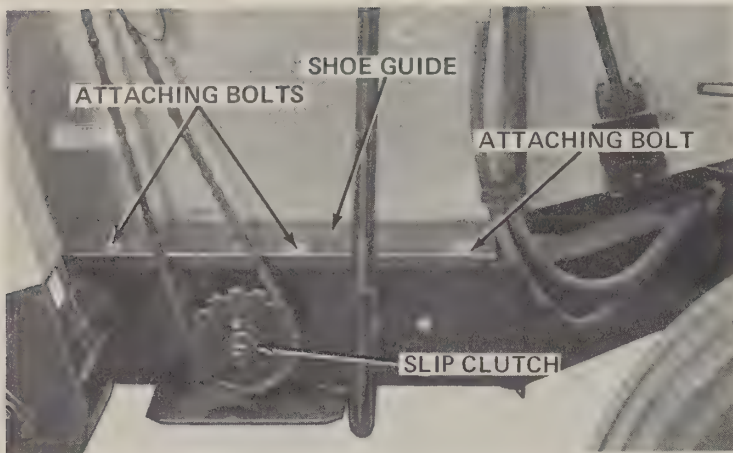


FIG. 38

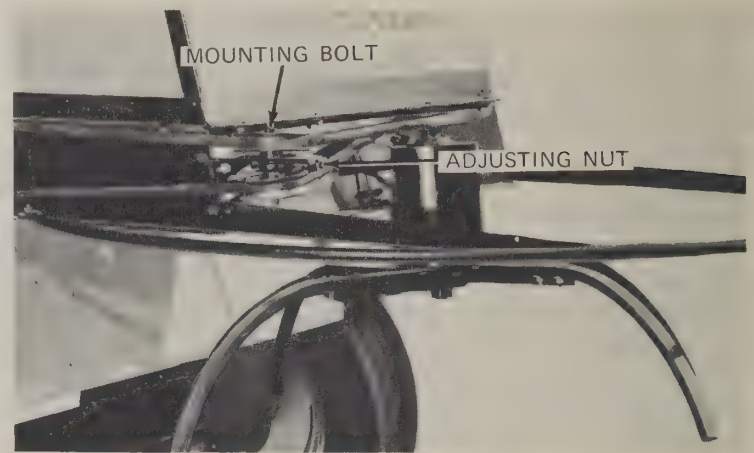


FIG. 39

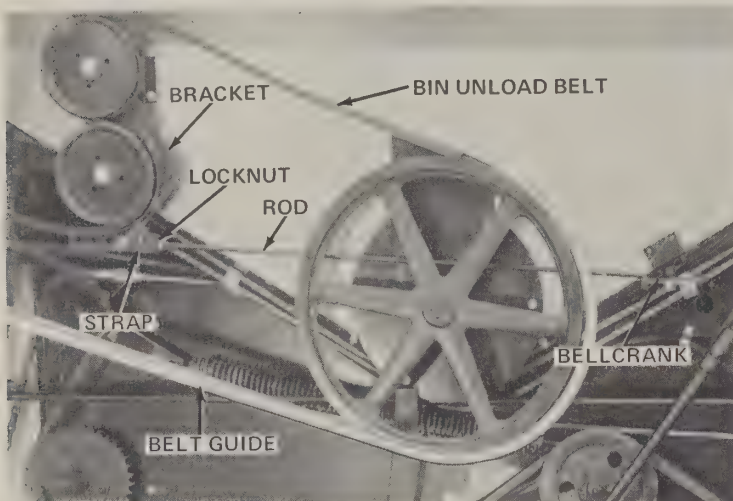


FIG. 40

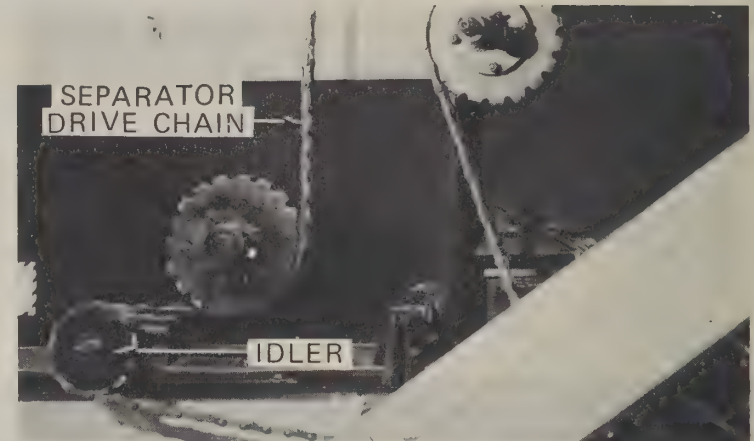


FIG. 41

SLIP CLUTCHES - Fig. 38

Slip clutches are provided for the clean grain and tailings conveyors, raddle drive and the thresher beater.

Tighten the tension nut or bolt until flat-washer bottoms against the shoulder on shaft.

The clutches are constructed so that the spring tension can not be increased to the point that the clutch ceases to be effective.

SHOE GUIDES - Fig. 38

To prevent binding of shoe guides against side of shoe, L.H. and R.H. guides should be positioned so there is $1/64$ " between shoe and guide. Loosen guide bracket and slide bracket in or out.

NOTE: Check during damp weather.

STRAW SPREADER DRIVE BELT - Fig. 39

Spreader drive belt should be tightened if there is evidence of slippage or if belt is whipping excessively. To adjust, turn adjusting nut clockwise to tighten and counter-

clockwise to loosen. The idler mounting bolt must be loose.

BIN UNLOADING BELT - Figs. 40 & 41

The bin unloader belt should be adjusted only tight enough to prevent slippage under a normal load. It should slip freely when unloading auger is not being used.

For minor adjustments, detach the rod from bellcrank at front R.H. side of grain bin. Loosen the locknut and turn rod into strap.

For larger amounts of adjustment, detach strap from bracket and select the hole in strap needed to tighten or loosen the unloader belt.

BIN UNLOADER BELT GUIDES - Fig. 40

Set belt to proper tension and again engage drive. Set guides so they clear belt by $1/4$ ". This adjustment will insure that belt does not drag.

SEPARATOR DRIVE CHAIN IDLER - Fig. 41

Chain should run without whipping. To adjust tension, loosen separator drive chain idler and move idler rearward.

ADJUSTMENTS (Cont'd)

ELEVATOR CHAINS - Fig. 42

Loosen locknuts on lever, eccentric washer and shaft, turn adjusting levers making sure shaft is kept level. Chain should be tight enough to keep paddles from striking elevator but not tight enough to cause undue sprocket and chain wear.

Check tension frequently when machine is new.

DRIVE BELTS

NOTE: It is important that all belts be run tight. A daily tension check and adjustment, if necessary, will minimize belt wear and maintain operating efficiency of combine.

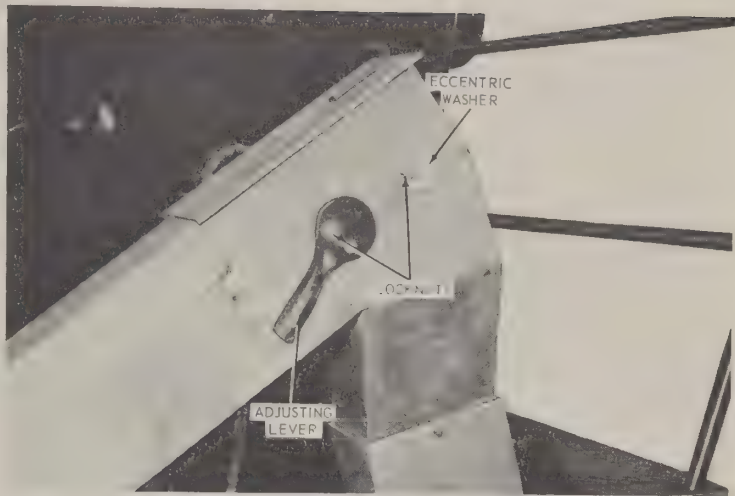


FIG. 42

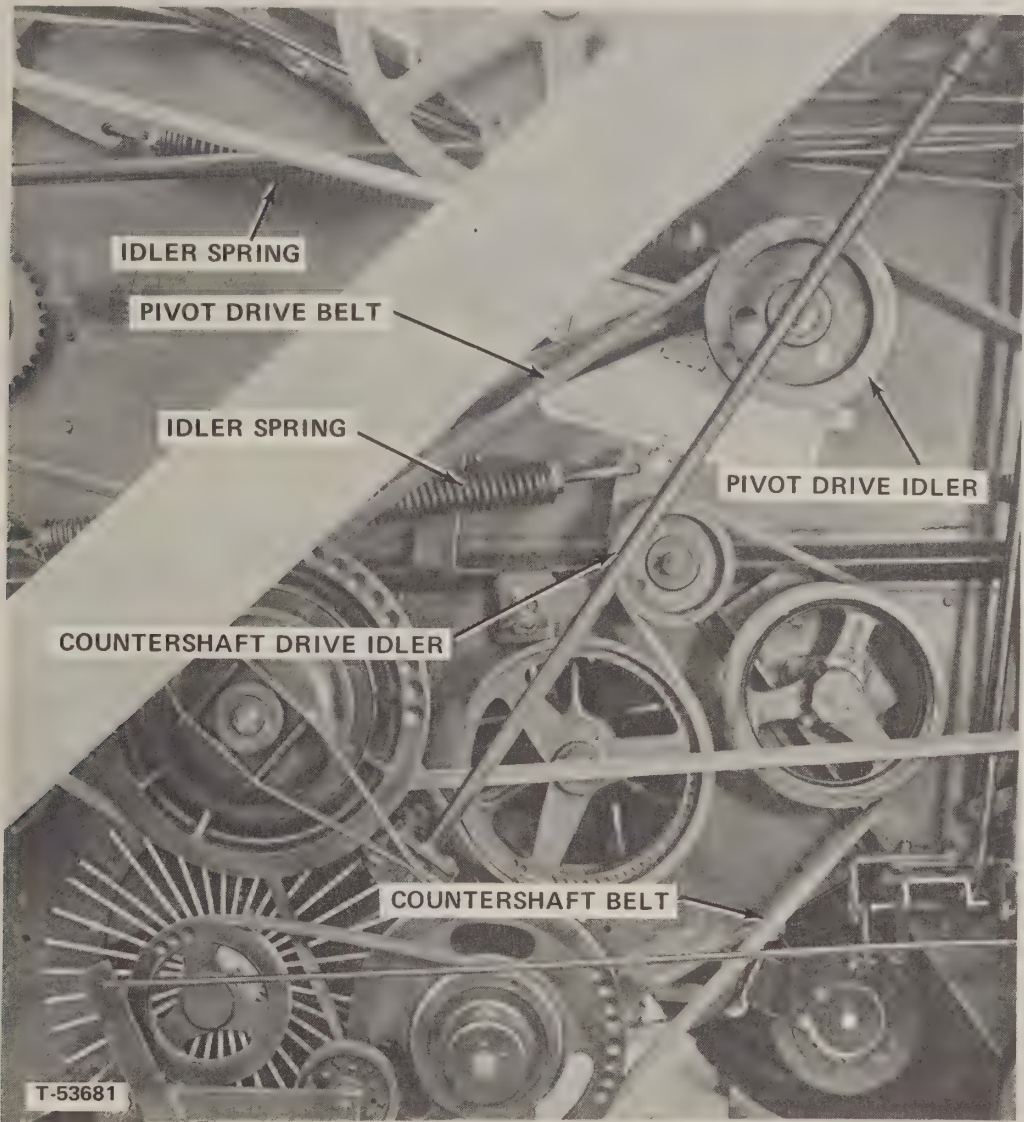


FIG. 43

PIVOT DRIVE BELT - Fig. 43

To tighten pivot drive belt, turn adjusting bolt into plug end of pivot drive spring. When installing a new belt, there should be 3-1/2" between end of eye in drawbolt and the angle to which drawbolt is attached.

COUNTERSHAFT DRIVE BELT - Fig. 43

To tighten belt, adjust the two locknuts on adjusting bolt and increase spring tension. As a starting point, with new belts, there should be approximately 4-1/4" between end of eye in drawbolt and angle to which drawbolt is fastened.

ADJUSTMENTS (Cont'd)

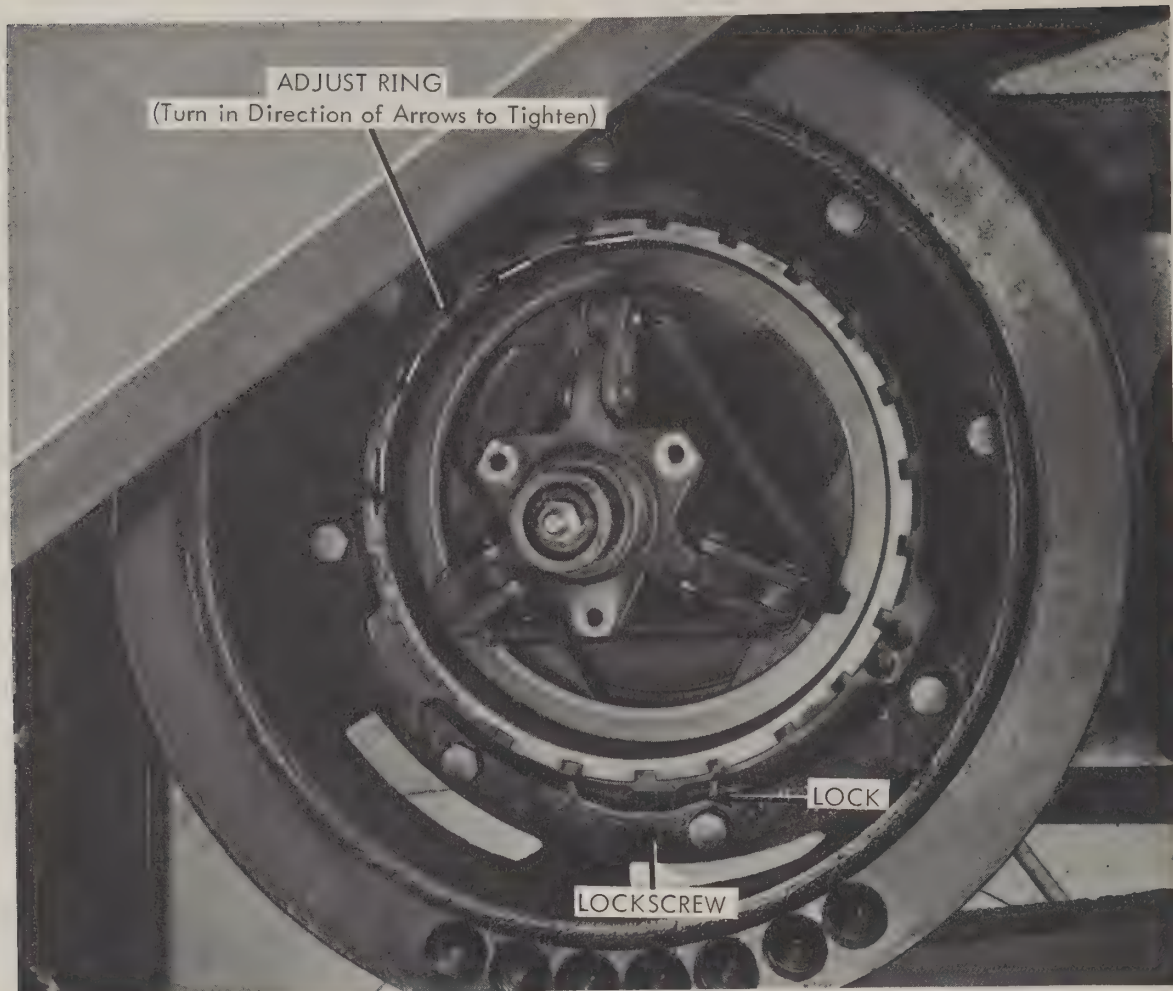


FIG. 44

SEPARATOR DRIVE CLUTCH - Fig. 44

If clutch is slipping, turn separator clutch until the lock shown is at the bottom. Loosen the lock screw until the lock drops out of the notches in adjusting ring.

Turn adjusting ring counter-clockwise as indicated by the arrows. Turn the adjusting ring one notch at a time until it is adjusted. When adjusted correctly, the clutch will snap over center into operating position as the operator engages the drive.

It should require approximately 35# force on the separator drive lever for the operator to engage the separator clutch. The linkage should be free.

Also, the clutch lever linkage should center when drive is disengaged. If the lever linkage does not center, the clutch plates may be under slight pressure and will wear.

VARIABLE SPEED CLEANING FAN - Figs. 45 & 46

The cleaning fan has a variable speed drive and its RPM can be varied from 337 to 698 RPM. To adjust the fan speed start the com-

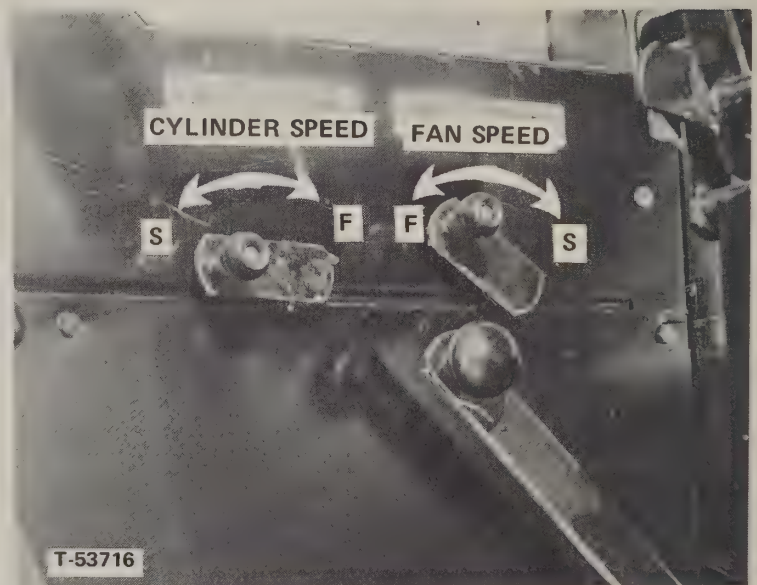


FIG. 45

bine and use the hand crank on the operator's platform to get the slowest fan RPM (handle turned counter-clockwise). Stop the combine and measure the sheave opening at the widest point. It should be 1 5/8". If it is not, shorten or lengthen the rod by turning the clevis until this measurement is obtained.



FIG. 46

When operating the combine adjust the fan speed so that there is enough air to float the chaff across the length of the chaffer, but not enough to blow seed out of the combine.

As a general rule the amount of air should be decreased when the lip opening of the chaffer is decreased.

If the fan speed is not slow enough to keep from blowing small seed out of the combine, optional wind doors may be installed. They will further decrease the air volume.

ADJUSTABLE CHAFFER INSTALLATION AND REMOVAL

The chaffer is fastened in the shoe with 4

capscrews. The shoe sides are fastened to the chaffer by two brackets. When chaffer is removed, bracket attaching bolts must be loosened and two capscrews at front and two at rear must be removed. Do not remove the brackets because they will act as guides when the chaffer is reinstalled.

To reinstall chaffer rest it in the brackets and slide it to the rear. Make sure that the chaffer front deflector is above fan housing wrapper extension and below shoe cross shaft. Extension must be in that position after chaffer is mounted or damage to fan housing and chaffer will result.

ADJUSTMENTS (Cont'd)

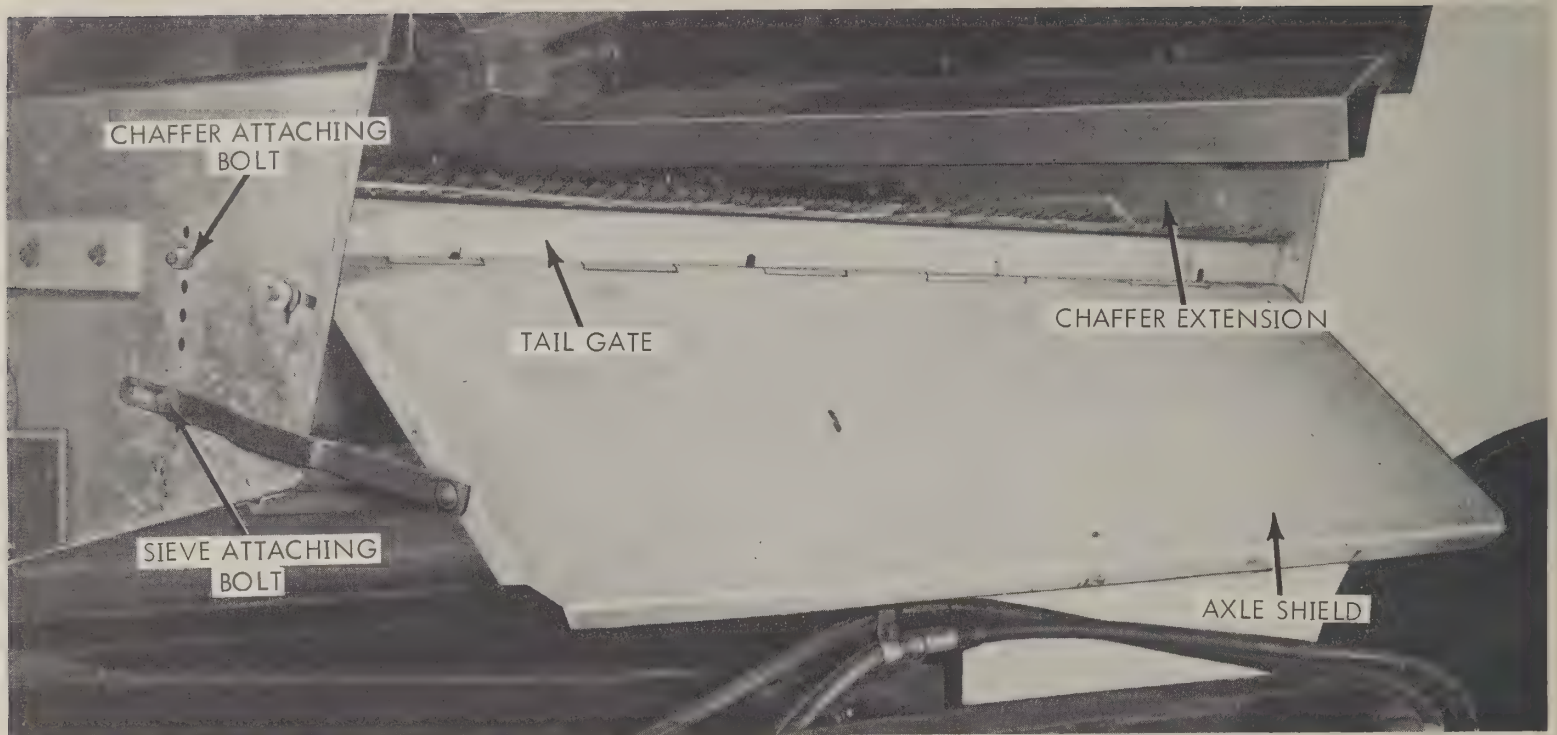


FIG. 48

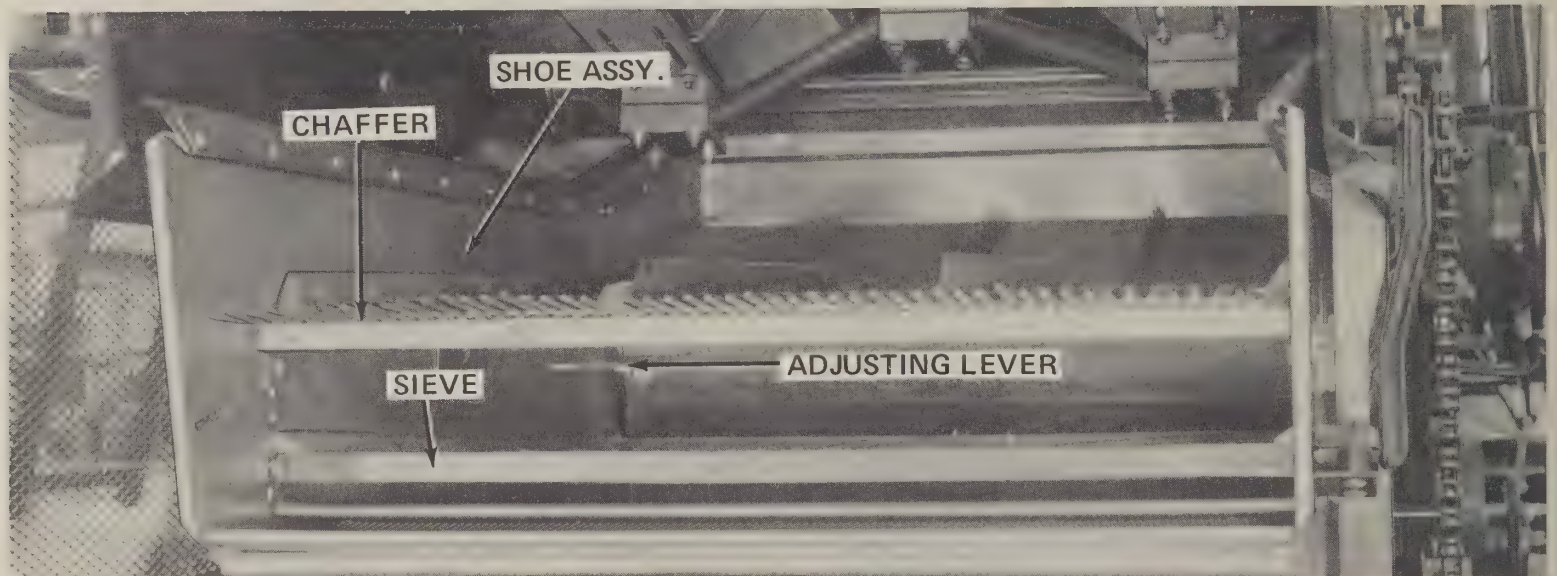


FIG. 49

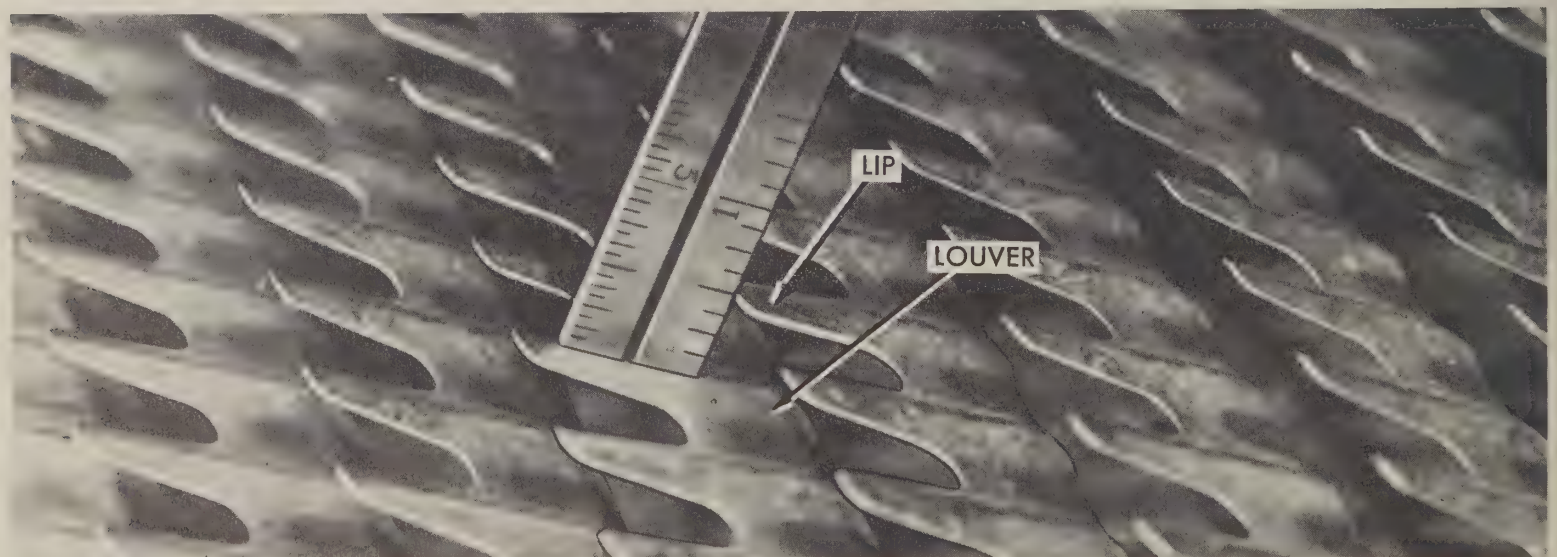


FIG. 50

ADJUSTMENTS (Cont'd)

CLEANING SHOE - Figs. 48, 49, 50

The cleaning shoe consists of a housing in which the chaffer and sieve are mounted. Attached to the rear of the housing is an adjustable tailgate and extension. At the rear of the adjustable chaffer is a tail rake through which heavier particles are screened for tailing. The chaffer is fastened in the shoe at the front and rear with two capscrews. The rear of chaffer is adjustable up or down but the front is stationary. The adjustable sieve is fastened in the shoe at the rear with capscrews and the front hooks over a rod extending through the shoe. The sieve can be moved up or down at the front or rear. There are seven sets of holes in the rear of the shoe in which the rear of the chaffer or sieve can be fastened. Normally the sieve is mounted in the front and rear bottom holes and the other holes are used for repositioning the chaffer.

When the use of a finishing sieve is recommended, the adjustable sieve is removed and the finishing sieve installed in its place. Refer to chart for sieve sizes for various crops.

CHAFFER AND SIEVE SETTING

LIP OPENING - Figs. 49 & 50

The chaffer should be opened far enough to allow threshed grain and small unthreshed particles of heads to fall through on to the adjustable sieve.

The adjustable sieve should be open only enough to allow threshed grain to pass through and sieve should convey the unthreshed particles to the tailings.

The chaffer is at maximum efficiency when there is $5/8$ " from tip of lip to top of louver below. (See Illustration). When louvers are opened beyond this point, air flow is decreased and movement of material to the rear is retarded. The sieve is at maximum efficiency when there is $1/2$ " between lips.

SETTING LIP OPENING - Fig. 50

To change lip opening of chaffer and sieve, loosen wing nuts and move levers in or out to obtain desired opening.

CHAFFER AND SIEVE LOCATION Figs. 48 & 50

For average cleaning conditions the chaffer is mounted in the second hole from the top at the rear. The sieve is fastened in the lowest set of holes. If material on chaffer is heavy or thick or tends to bridge over lips, it is advisable to lower the rear of the chaffer to better move the material. Make sure first that seed loss over chaffer is due to it riding out and that it is not being blown out.

TAILGATE AND EXTENSION - Fig. 48

Amount of air flow through chaffer can also be changed by position of tailgate and extension. With extension raised against bottom of chaffer extension maximum air will flow through chaffer. To relocate extension loosen wing nuts and move gate in or out and extension up or down.

AXLE SHIELD - Fig. 48

Set shield so that material from chaffer and spreader is directed back of axle assembly.



FIG. 51

WALKER SET-BACK PLATES - Fig. 51

Adjustable walker set-backs are beneficial when combining crops having coarse stalks or straw such as corn or maize. Setting walkers back in these crops reduces tendency of back feeding with the raddle. They are also of great help when combining barley or other grain that may overload the walkers. In this case they leave more opening for separator fan to float straw between raddle and walkers letting grain fall through.

ADJUSTMENTS (Cont'd)



FIG. 52

TRANSMISSION CLUTCH AND CLUTCH PEDAL FREE TRAVEL

The dry disc type clutch requires very little attention. In time, normal wear on clutch facing will decrease pedal free travel. To prevent unnecessary wear on the clutch throwout bearing, limit the pedal free travel between $3/4$ " and 1". Do not operate combine when pedal free travel is below $3/4$ ".

To obtain the proper pedal travel, adjust the linkage as follows:

Fig. 52

Detach clevis from bellcrank. To increase pedal travel lengthen rods by turning clivis. Re-attach clevis to bellcrank and tighten the locknut.



FIG. 53

TRANSMISSION BRAKE - Fig. 53

Adjust the control rod length to compensate for brake wear by either disconnecting either the upper or lower clevis and turning clevis on the control rod.

The transmission brake pedal should have 2" to $2-1/2$ " of free travel.

ADJUSTMENTS (Cont'd)

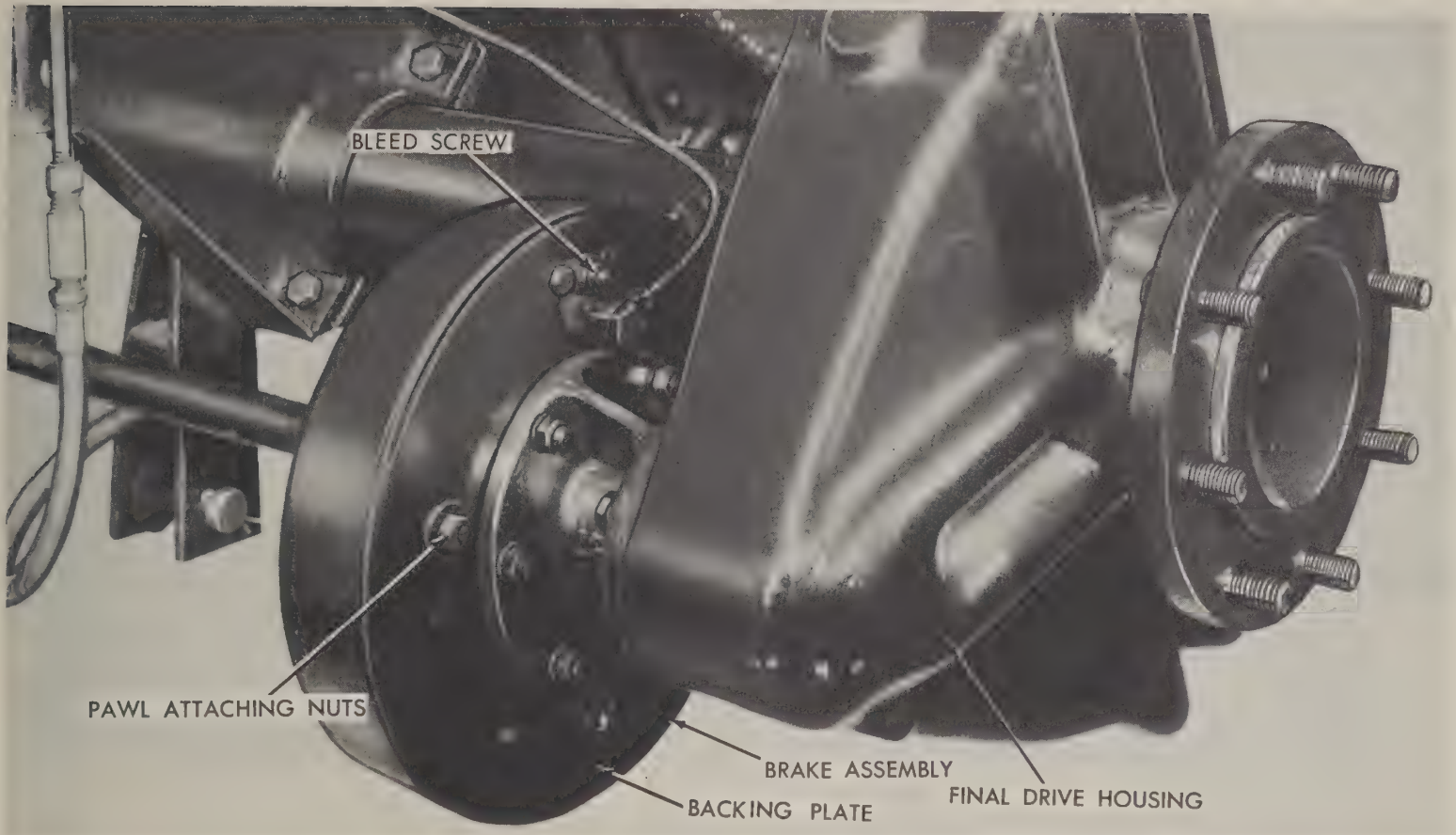


FIG. 54

HYDRAULIC WHEEL BRAKES - Fig. 54 (Special Equipment)

Brakes are available as either a factory or a field installation. They assist the driver when machine is being operated in muddy fields; when combining row crops or when turning in restricted areas.

Brakes are self-adjusting and require no periodic band adjustment. It may however, be necessary to remove air from hydraulic system. A bleed screw is provided for this purpose. To remove air depress brake pedal, open bleed screw then close screw and release pedal. Repeat until air is out of system. Replace fluid.

NOTE: Do not turn pawl attaching nuts .

ADJUSTMENTS (Cont'd)

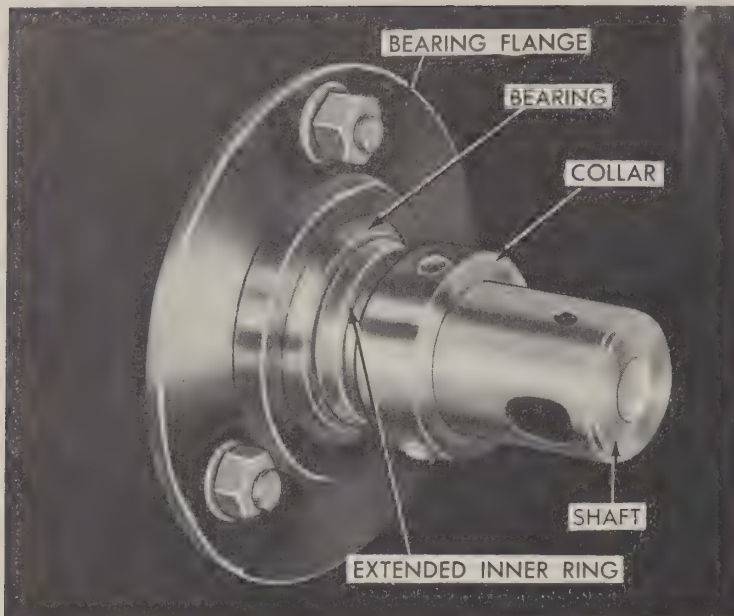


FIG. 55

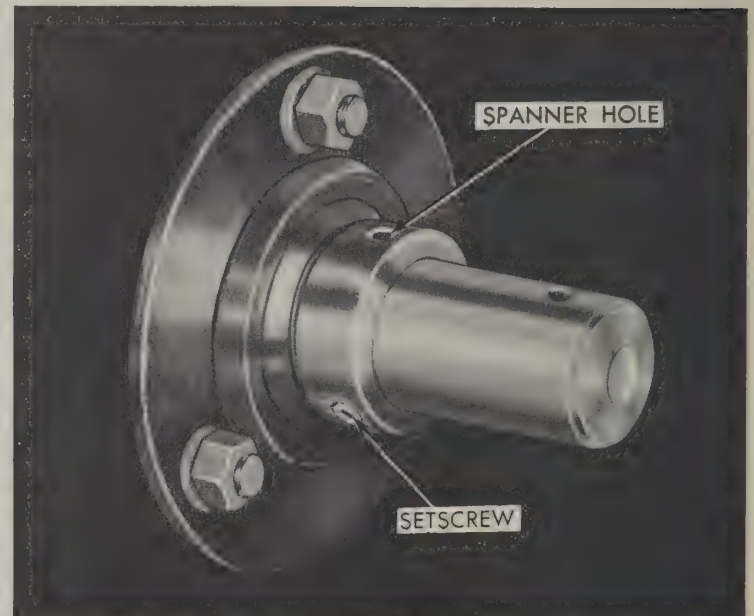


FIG. 56

INSTALLATION OF PRE-LUBRICATED BEARINGS - Figs. 55 & 56

When it is necessary to change the bearing and after shaft has been positioned in machine, tighten bearing flange capscrews and slide locking collar over extended inner ring of bearing. The collar is then turned in direction of shaft rotation in order to securely lock shaft in bearing. Although any tendency for the inner ring to creep on the shaft causes additional tightening of the collar, it is recommended that the collar be set tight initially. This is done by using wrench in spanner hole provided or by lightly tapping punch inserted in this hole. After this is done turn setscrew in tightly for an additional positive lock.

WARNING: Overtightening of collar can cause breakage of extended inner ring and locking action of collar and setscrew will be lost.

ADJUSTMENTS (Cont'd)



FIG. 58

SHIELD CLAMPS - Fig. 58

Adjust the two nuts on the "J" bolt until the clamp handle will snap over center and remain in place.

SPECIAL EQUIPMENT

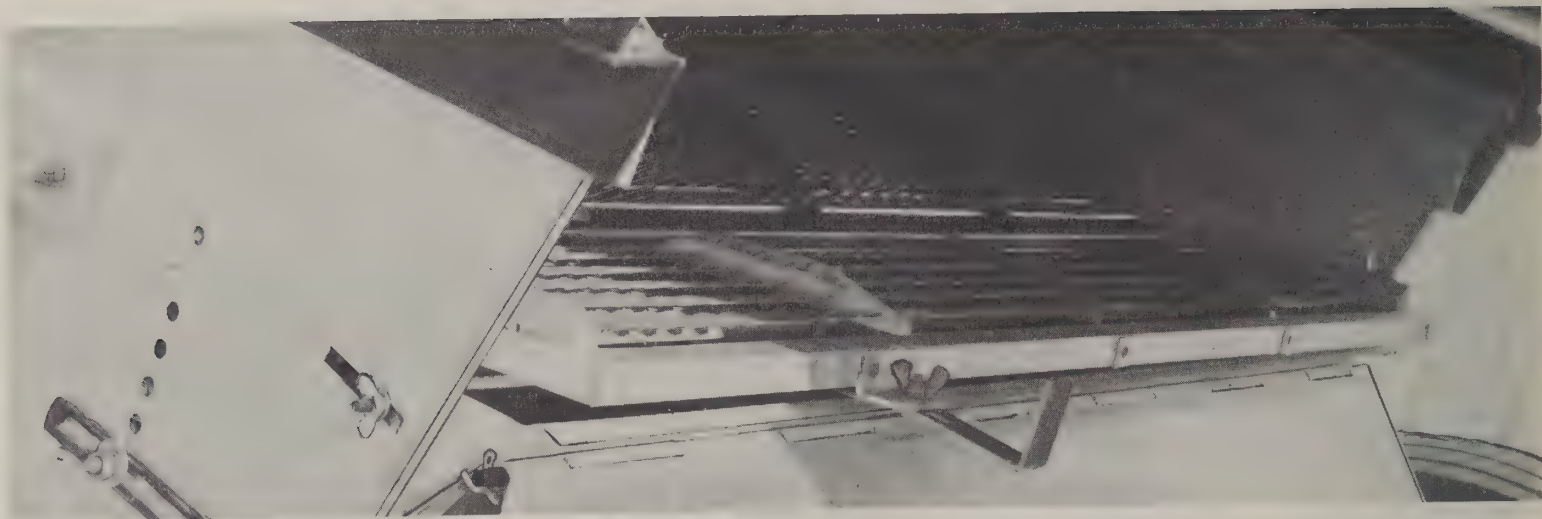


FIG. 1

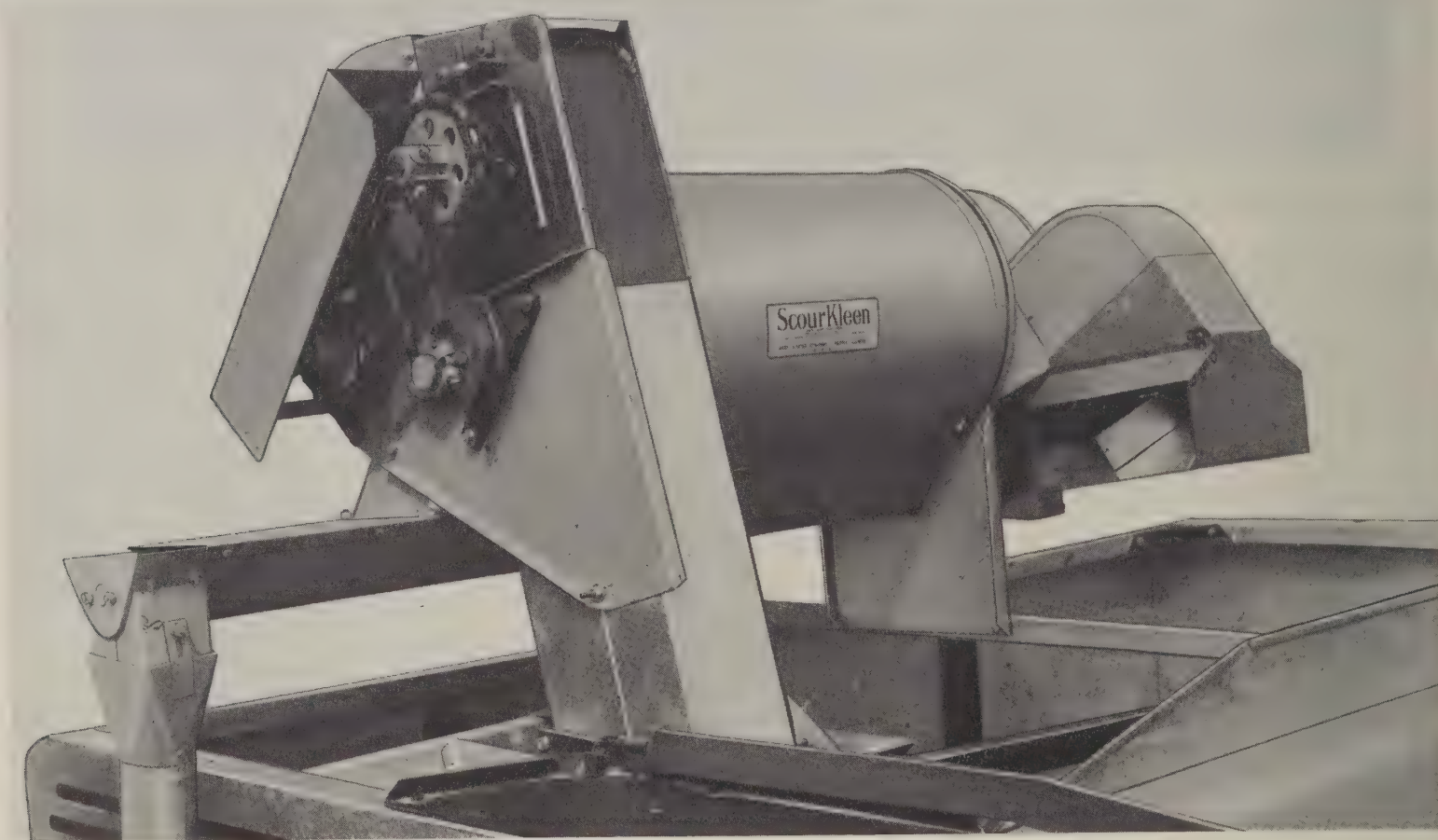


FIG. 2

ADJUSTABLE TAILER (Special Equipment) Fig. 1

The adjustable tailer reduces amount of tailings in very rough, rolling or hillside condition or when extreme amount of chaff is encountered.

It replaces the regular wire finger tail rake at rear of chaffer. The front of the tailer is hinged and lip openings can be changed to meet varying conditions.

SCOUR-KLEEN (Special Equipment) - Fig. 2

Scour-Kleen must be used in conjunction with elevator extension.

The large capacity Model "N" Scour-Kleen removes weed seeds or other dockage smaller than the crop harvested. However, when harvesting small seed crops where the dockage is larger than the seed to be saved, install a screen of a size that will permit the seed to pass through. Seed is then sacked from the dockage chute. Special screens are available for various crops.



FIG. 3

STRAW CHOPPER - Fig. 3

Chopper is operated in forward rotation for finer shredding and wider spreading.

Install belt straight (no twist) on chopper sheave. Adjust belt tension.

CONCAVE ADJUSTMENT

The chopper concave can be adjusted to chop medium, fine or extra fine. Set as follows:

1. For medium chopping, set concave halfway out.
2. For extra fine chopping, set concave all the way in.
3. For fine chopping, set concave 1/4 the way out.



CAUTION: For use of chopper in corn, with corn kit concave must be set all the way out (teeth completely retracted).

SPREADING WIDTH

Adjustable spreader board and fins provide positive spreading. For normal conditions set rear of spreader board down slightly. To increase spreading width, raise the board and open the fins. To control blowing in strong winds, tip board steeply down. Always make sure spreader board is at least partly lowered in corn to reduce hazard of flying pieces of cob.

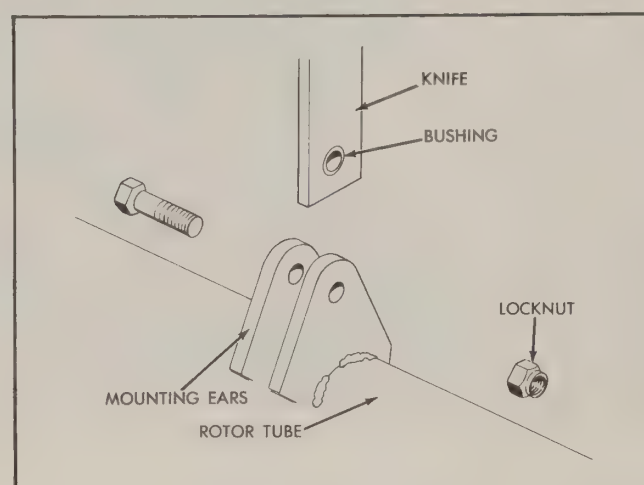


FIG. 4

MAINTENANCE OF HAMMERS - Fig. 4

KEEP HAMMERS CLEAN. To prevent an adverse effect upon the dynamic balance of the rotor and hammers, it is necessary that the hammers be free of any foreign matter. Clean hammers will always assure freedom of movement. To remove gummed or hardened dirt, soak rotor and hammers in water.

NOTE: Any moving part of the unit which breaks or becomes damaged should be replaced immediately.

NOTE: Badly worn hammers may cause straw to lodge and clog above the chopper.

1. Hammers may be reversed for additional service. However, if the hammers are wearing evenly and doing an adequate chopping job, there is no need for reversing. Hammers can become rounded at least 1/2" on leading edge and still perform satisfactorily.
2. Hammers of the rotor assembly should be replaced in complete sets only.

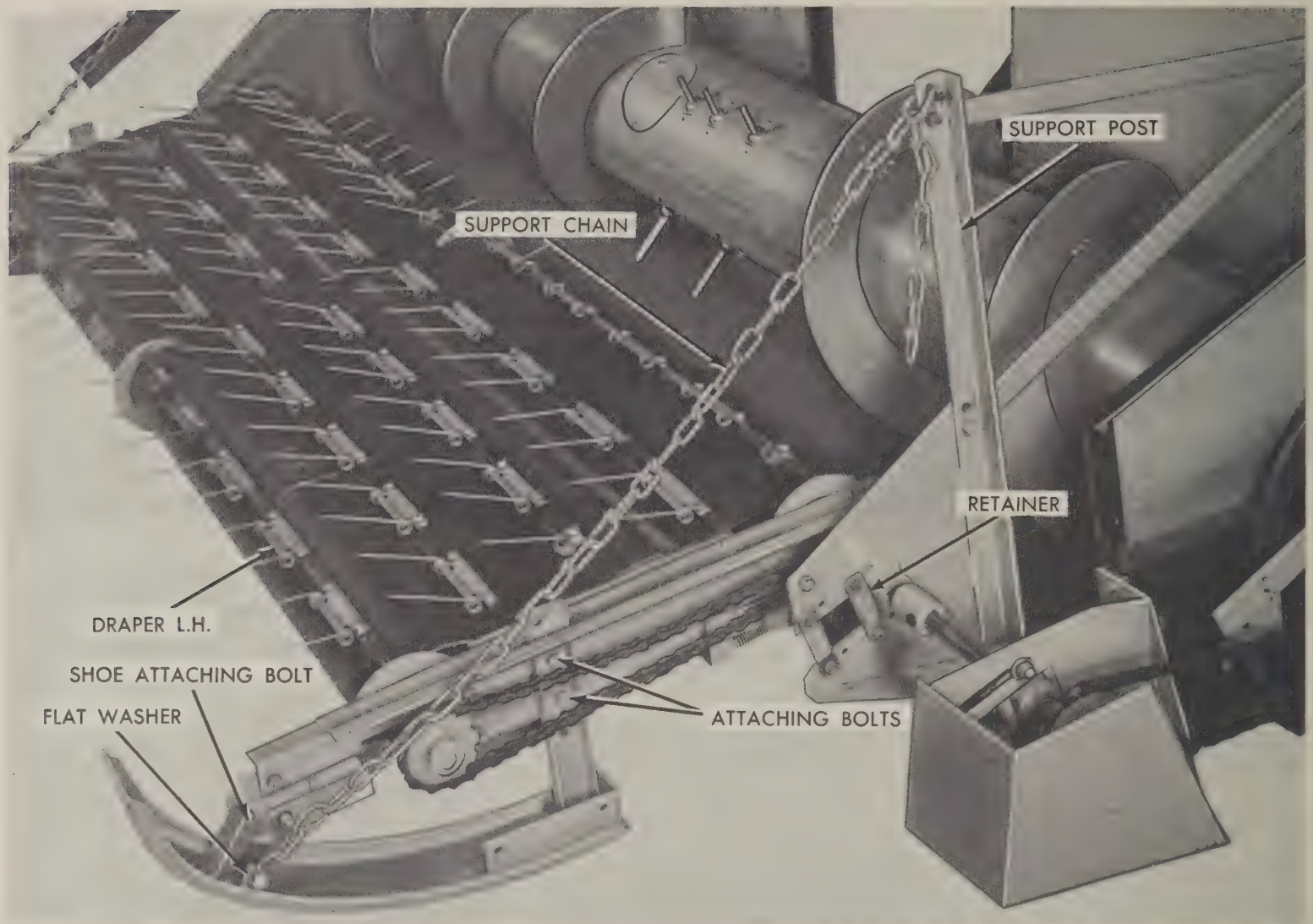


FIG. 5

DRAPER PICK-UP - Fig. 5

SUGGESTIONS FOR ADJUSTMENT

Draper Tension - Should be great enough to prevent it from slipping on the rolls. Also, a draper too loose permits added and undesirable flexing of the pickup fingers.

Fingers - Should be kept straight and secure at bolts. Sharp edges or hook ends should be removed from new draper teeth before they are permitted to run as they may cause back feeding of the windrow and damage to the cushions on the shield.

Height - Of leading edge of draper pickup should always be great enough to allow the pickup fingers to clear a level surface at skid shoes or gauge wheels - even when working in windrows that are lying on the ground. Extra clearance under fingers will reduce the tendency of the pickup to feed foreign object into the combine. The shoes are adjusted at rear to raise or lower the pickup.

Speed - Generally the lineal velocity of the pickup draper should be just a little greater than the

forward speed of the combine. If windrow has seeds that are very easily shelled and windrow is easy to pickup, it may be desirable to operate pickup at lineal speeds not greater than forward travel and even a little less. If a heavy windrow has been badly bunched it can often be fed into the combine more evenly with a draper that is traveling much faster than forward speed of the combine.

Operating Angle - Of pickup will be affected by three factors - Manner in which the windrow will pickup the cleanest. To get the cleanest job of lifting windrow it may be desirable in various conditions to operate the draper anywhere from near parallel (flat) to the ground to as steep as near 45° in some situations.

The steeper the draper is operated the less tendency there is to pick up foreign objects.

The draper should not feed the windrow over top of the header auger. Operating pickup at too steep an angle may cause this.

NOTE: The header auger usually operates best in highest position and with the fingers having greatest extension at top of auger when working in windrows.

SPECIAL EQUIPMENT (Cont'd)

Hence, it may be suggested that upon entering the field a pickup should be started at a steep angle and then gradually reduce the incline until pickup operates best with all due consideration to the conditions existing.

The support chains may then be adjusted in length to provide a little slack during normal operation.

Position - Of the pickup in the mounting plates will influence such factors as backfeeding of the windrows under the pickup or feeding of windrow over top of the header auger. Three positions are available and generally the forward position is most acceptable when working in heavy windrows and long straw. The pickup often works best in the rear position when picking up light windrows with short fluffy material.

PICK-UP DRIVE

Drive Sprocket	Driven Sprocket	Pick-Up Speed
15	15	193 RPM
12	15	155 RPM
15	12	246 RPM

DIRT REMOVAL EQUIPMENT

The Navy Bean Special is a standard machine equipped with attachments such as a spike tooth cylinder and dirt removal panels both being necessary to efficiently harvest edible beans. This same equipment is available and can be installed on the standard machine when needed.

The spike tooth cylinder has been discussed in this book and the dirt removal equipment will be covered in the next few pages.

During the separation and cleaning processes the dirt removal can be accomplished by a series of screens located strategically throughout the combine. Dirt removal starts at the raddle cleanout door through which dirt is forced as the raddle moves the seed to the rear.

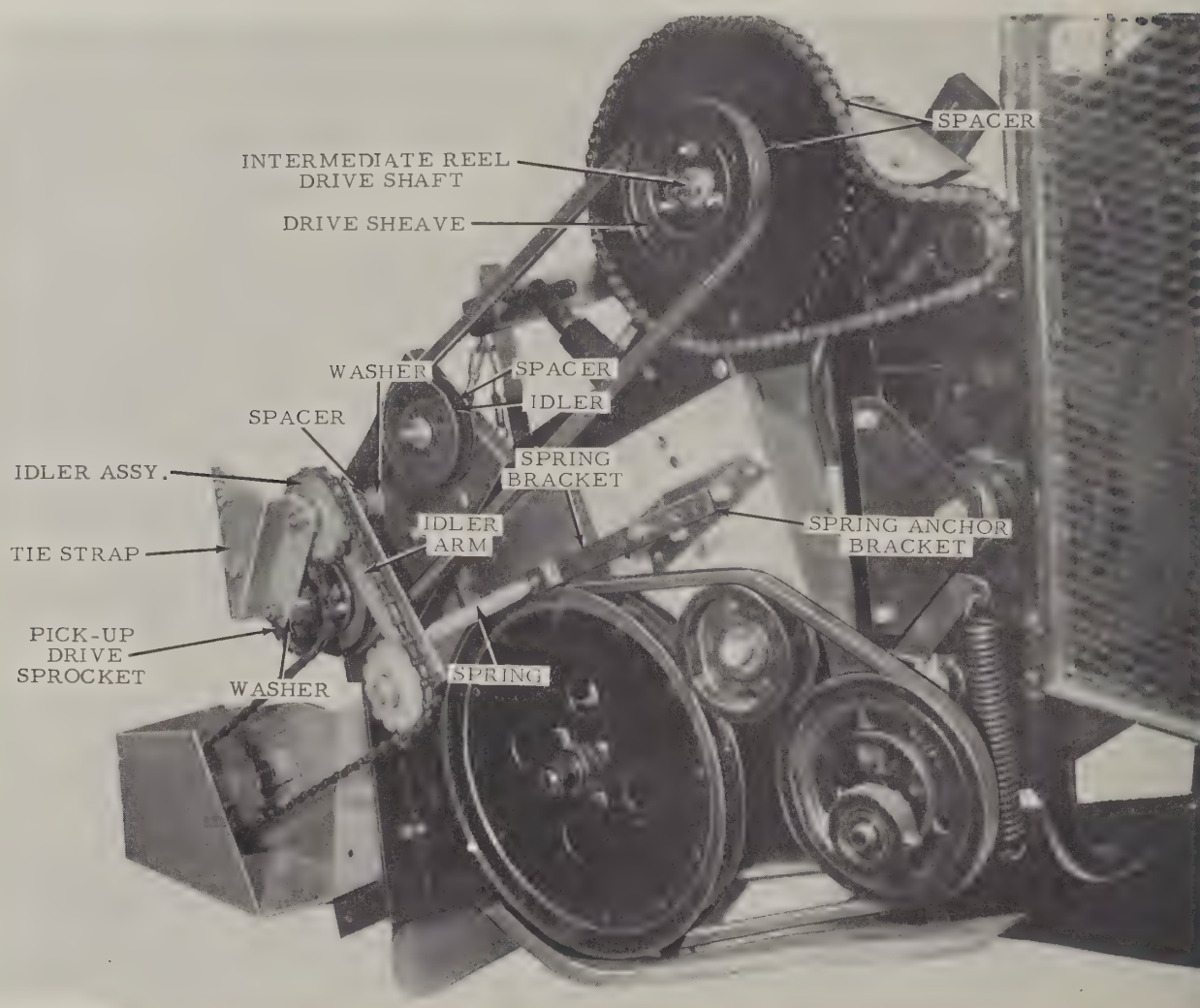
Dirt separation continues in the shoe area where the seed passes over the perforated clean seed pan which allows dirt to drop onto the shoe bottom. This dirt then is moved to the tailings elevator where a perforated section in the elevator housing and boot eliminates dirt as the rubber scrapers move the tailings to the cross auger.

The clean grain elevator and boot also has a perforated area that allows additional dirt to escape before seed gets to the bin.

Terminal cleaning takes place as the seed is augered from the bin to wagon. A screen in the bottom of the unloading tube provides a final means of dust removal.

To make the combine more adaptable, a means is provided to cover the perforated areas so machine can handle a variety of seed crops. The following is a series of pictures showing perforated areas and covers, also instructions when needed to make changes.

VARIABLE SPEED DRAPER PICK-UP DRIVE



This conversion is used to change the draper pick-up drive on combine grain heads equipped with a variable speed reel drive. This provides a quick means to adjust draper speed to combine forward travel.

INSTALLATION

If installed, the following parts must be removed.

1. Reel Drive Belt
2. Reel
3. L.H. and R.H. Reel Arm Assemblies
4. Draper Drive Chain, Sprocket and Idler

After parts are removed, install the 13/16" spacer over the intermediate reel drive shaft. This spacer fills the gap left by removing the L.H. reel support arm.

Remove the reel drive sheave from the large (60T) driven sprocket hub. Place the 1/8" flat spacer over hub between sprocket and sheave. Reinstall sprocket and sheave assembly on the intermediate shaft.

Fasten the drive support assembly to the formed support angle. Do not tighten bolts. Place this assembly on L.H. header end, so that the edge of the formed support angle is flush with the inner side of the existing header side sheet. Clamp the front of drive support assembly to front post of header. Adjust the formed support angle until it lays flat on the top angle. Tighten the bolts in the slotted holes of the formed support angle. Drill the five 11/32" attaching holes.

Install the belt idler sheave, using a 1/2" x 2-1/2" round head bolt. Note that a 1/2" spacer must be installed between drive support assembly and sheave.

To install the idler arm, use a 1/2" x 5-1/4" capscrew thru the middle hole in the drive support assembly.

Place parts on capscrew in the following order: A 1/2", 10 ga. flat washer, spacer, idler bracket assembly, 1/2" flat washer, sprocket with long end of hub to inside, followed by a flat washer. Do not at this time install lockwasher and nut. Attach the lower idler sprocket to the idler arm with a 1/2" x

3" capscrew. There must be a flat washer on each side of sprocket and fitting in sprocket must be next to idler arm. Fasten with lock-washer and nut.

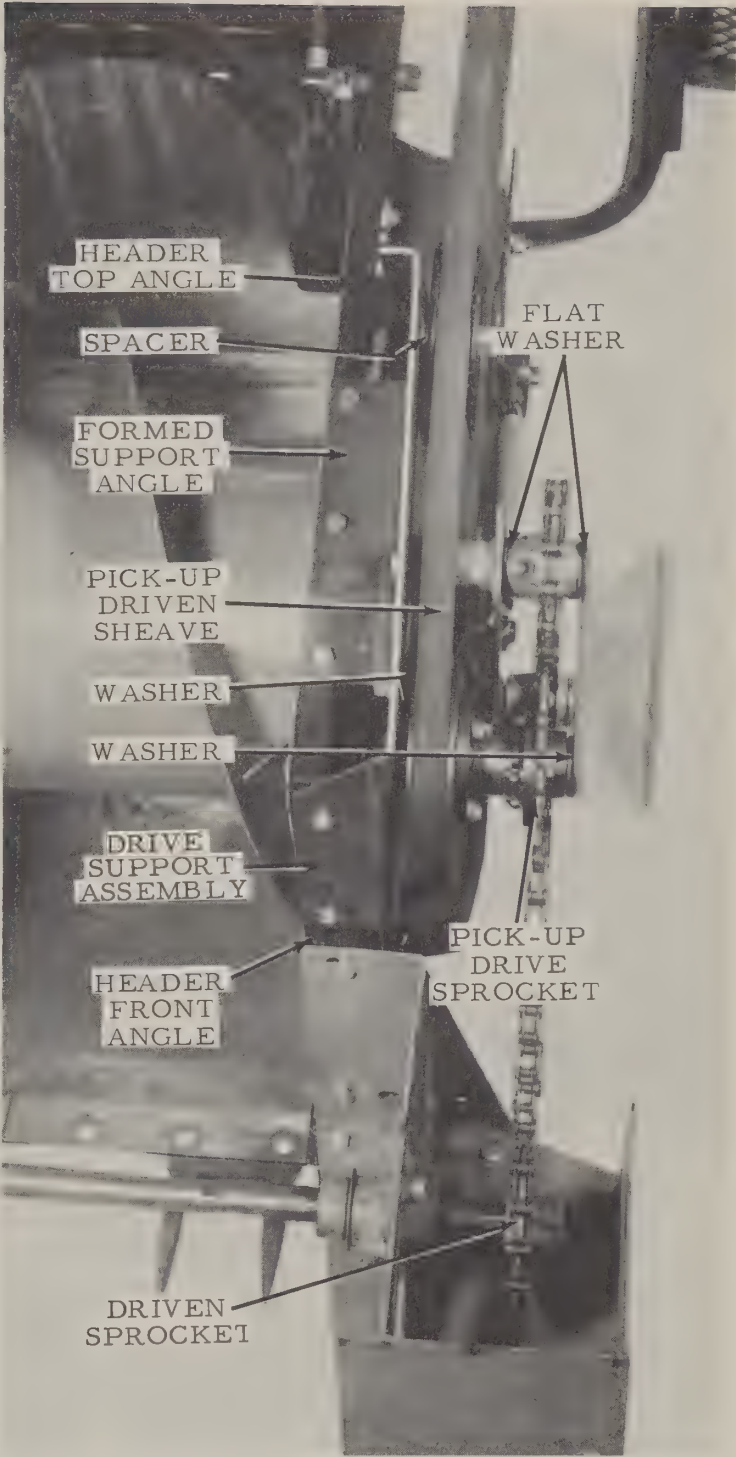
Install a 12 gauge flat washer over the front-lower stud welded to the drive support. Install the intermediate drive hub assembly sheave end first. This hub assembly should have a 12 gauge washer against each end. Place the idler tie strap over the intermediate drive and idler shafts. Fasten with 1/2" lockwasher and nuts.

Install the drive belt and set tension with the idler.

Bolt the spring anchor bracket to side of the header. Bolt spring strap to anchor bracket with a 3/8" x 1" square neck bolt. Attach spring to idler arm and strap.

Install the drive chain.
NOTE: Refer to chart and install with the 12 or 15 tooth driven sprocket furnished with Draper Pick-Up.

Drive Sprocket	Driven Sprocket	Speed Ranges w/ Variable Speed
12T	15T	62 to 168 RPM
12T	12T	77 to 210 RPM
15T	12T	97 to 262 RPM



SPECIAL EQUIPMENT (Cont'd)

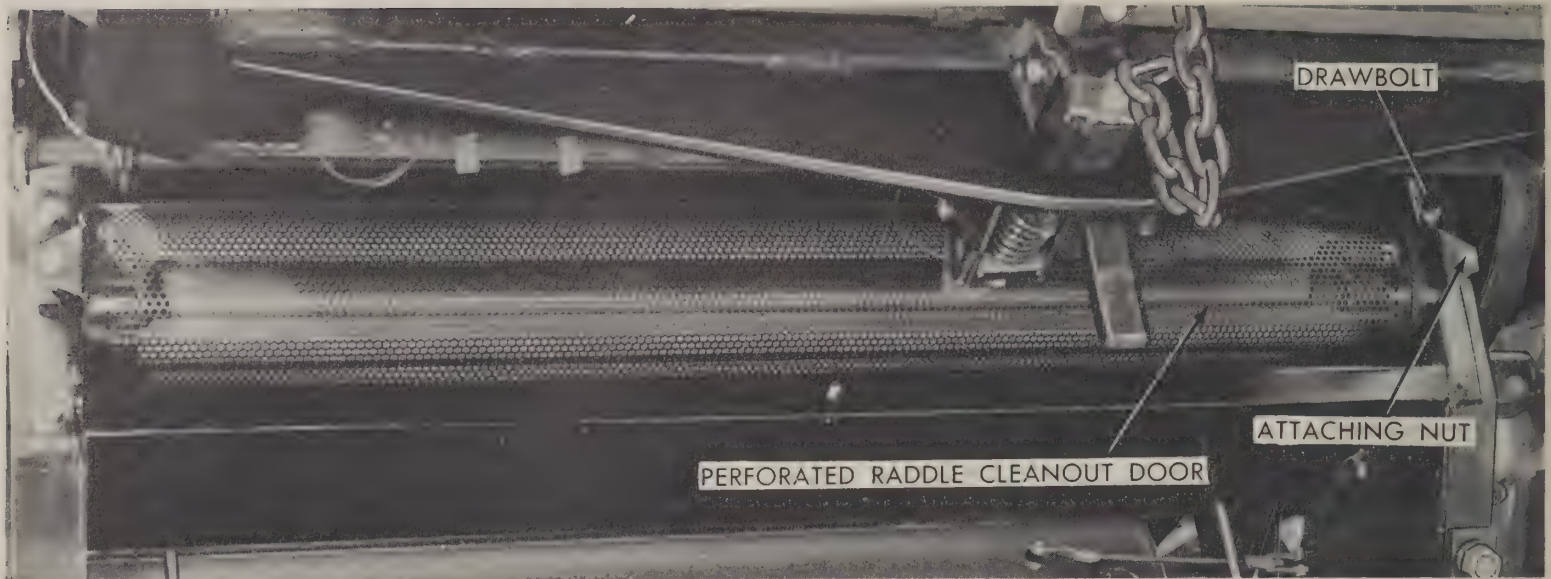


FIG. 6



FIG. 7

RADDLE CLEAN-OUT DOOR - Figs. 6 & 7

Perforated and Solid

The perforated door provides a means for dirt removal from the front of the separator housing.

It can be replaced with the solid door provided, when combine is used in crops other than beans.

To remove perforated door and install solid door, loosen the L.H. and R.H. raddle slide idler attaching bolts then turn retaining nut from drawbolt on raddle take-up bracket. Remove door and tighten slide idler attaching bolts. Position solid clean-out door over studs and secure in position with wing nuts. Either of these doors should be removed at time raddle is adjusted.

SPECIAL EQUIPMENT (Cont'd)

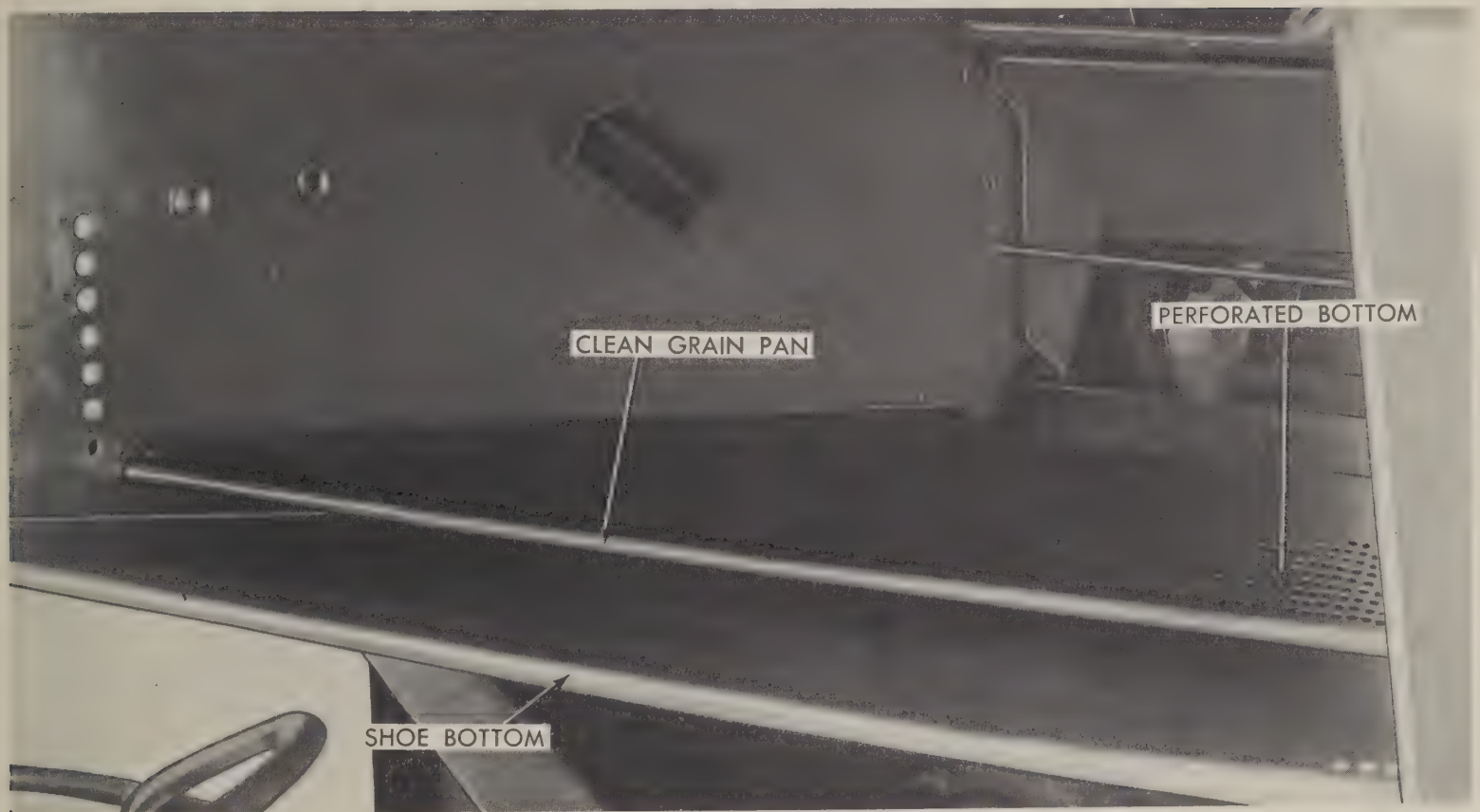


FIG. 8

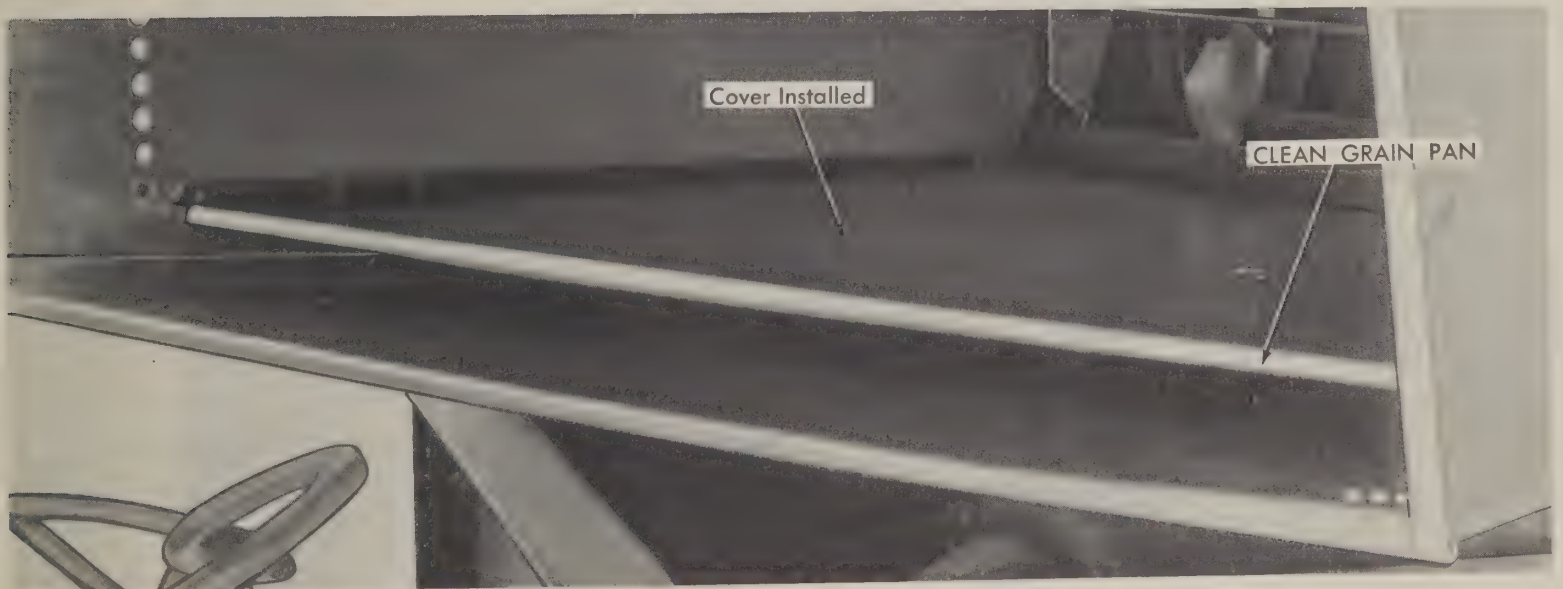


FIG. 9

PERFORATED AND BLANK PANELS FOR CLEANING SHOE AND TAILINGS ELEVATOR

CLEANING SHOE - Figs. 8 & 9

Fine dirt passes through the clean grain pan when combining beans. This pan must be covered when harvesting small seed. A cover or blank is provided and is installed by laying cover on pan and hooking rear of cover over rear of pan.

SPECIAL EQUIPMENT (Cont'd)

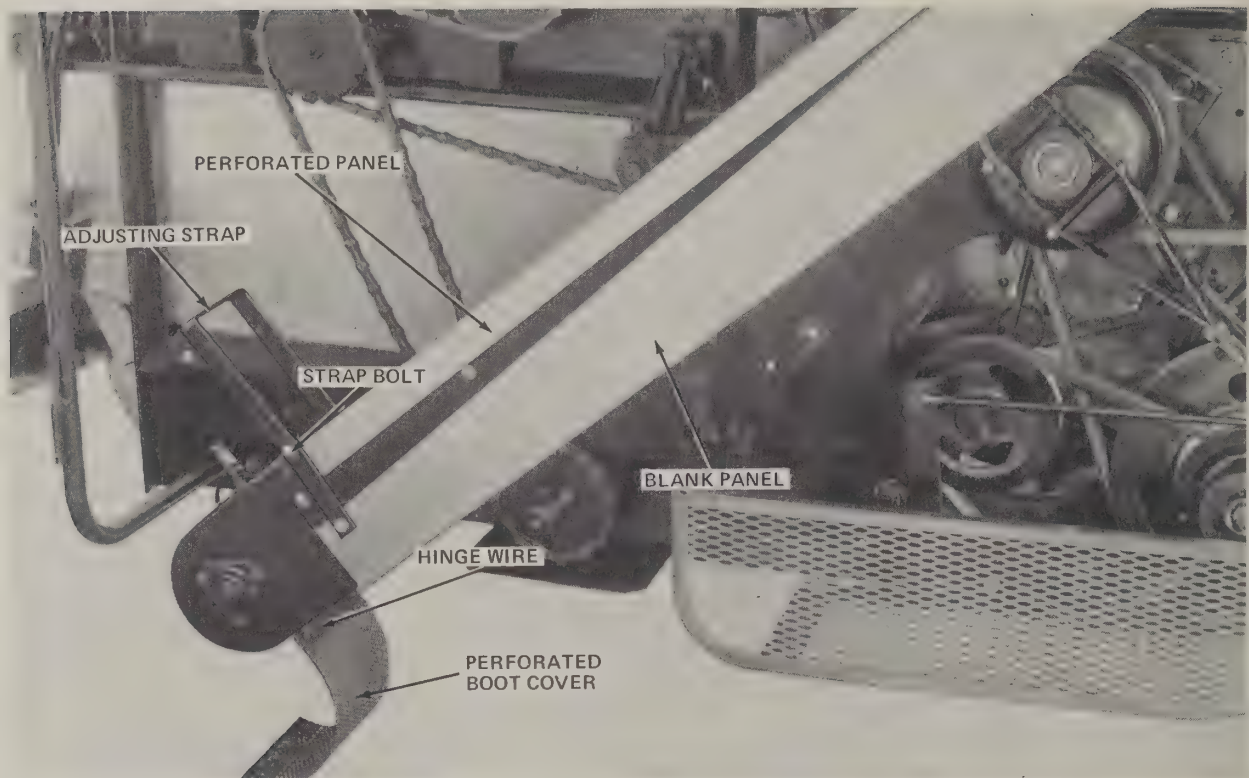


FIG. 10 (Closed Position)

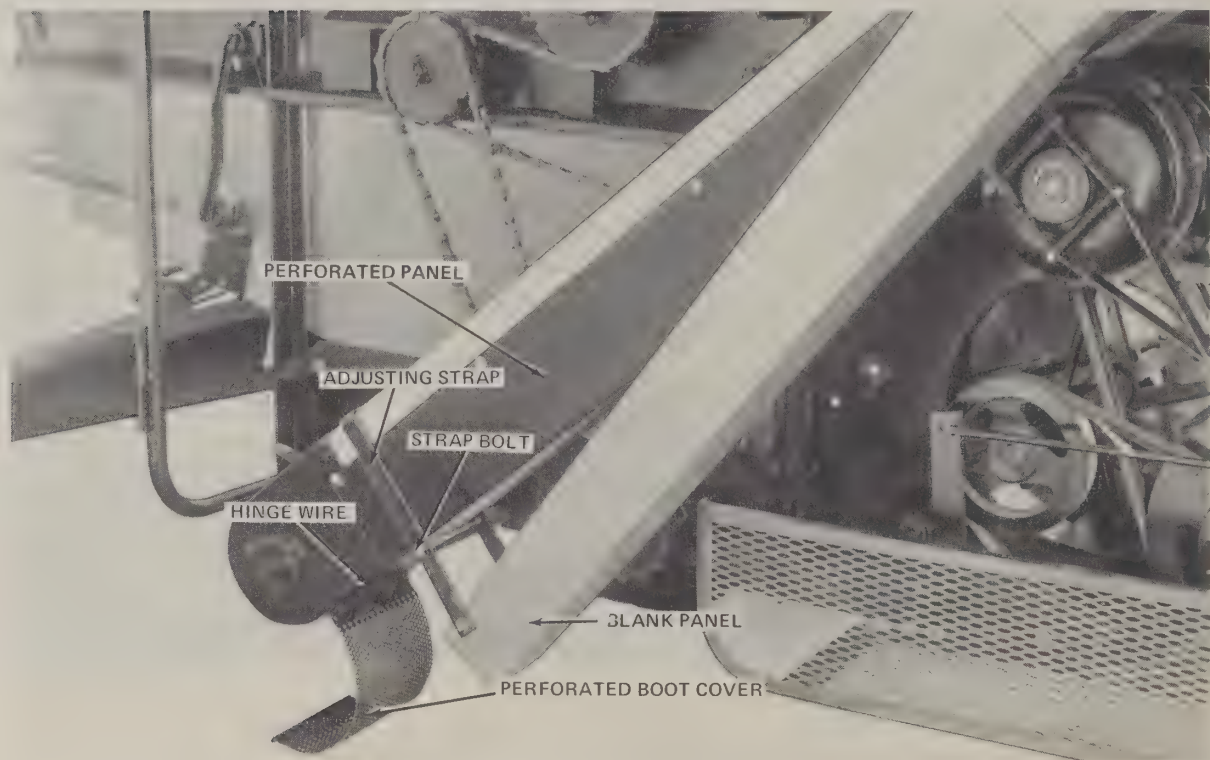


FIG. 11 (Open Position)

TAILINGS ELEVATOR PERFORATED PANELS - Figs. 10 & 11

The dirt that sifts through the perforated clean grain pan is eliminated through the perforated boot and elevator panel as the material is moved by the tailings elevator.

The perforated panels must be replaced by blank panels before combining small seeds. To do this, remove the perforated boot cover and replace with the blank boot cover. Remove the long bolt in the panel bracket and slide the panel up and replace the bolt as shown.

SPECIAL EQUIPMENT (Cont'd)

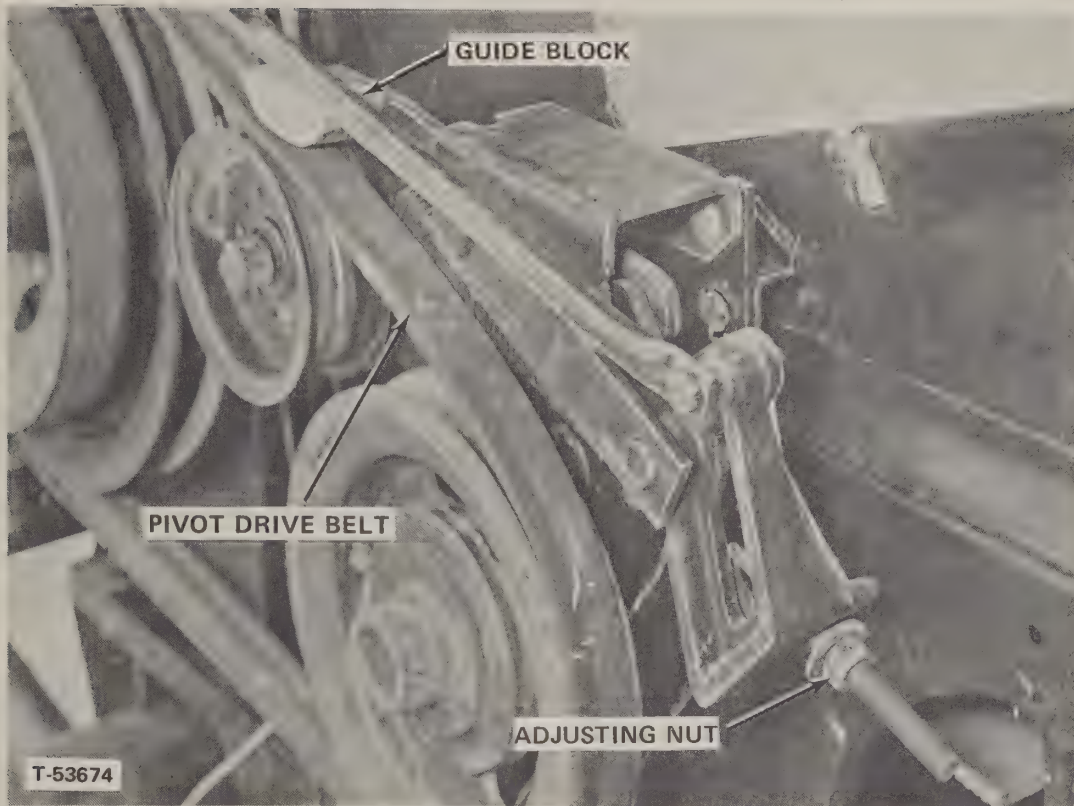


FIG. 12

HEADER THROWOUT CLUTCH

When the pivot drive belt is disengaged the idler block should be positioned to clamp the belt between idler and block.

PIVOT BELT IDLER SPRING

Tension spring so pivot drive belt is light

enough to drive header or corn head under normal conditions.



CAUTION: NEVER WORK ON HEADER WHEN HEADER THROWOUT CLUTCH IS DISENGAGED WITHOUT TURNING OFF ENGINE.

SPECIAL EQUIPMENT (Cont'd)

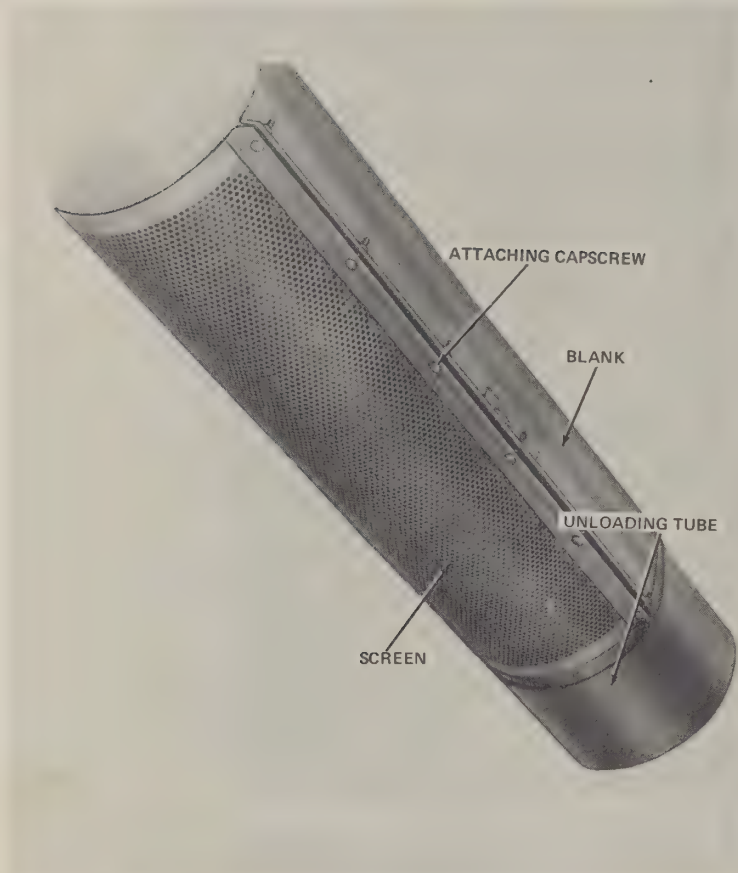


FIG. 13

UNLOADING TUBE PERFORATED AND BLANK COVER - Figs. 13, 14

The screening and blanking member for the unloading tube is in itself a tube half of which is perforated and the other half blank.

Fig. 13 - When dirt removal is desired, the tube is rotated on unloading tube until perforated

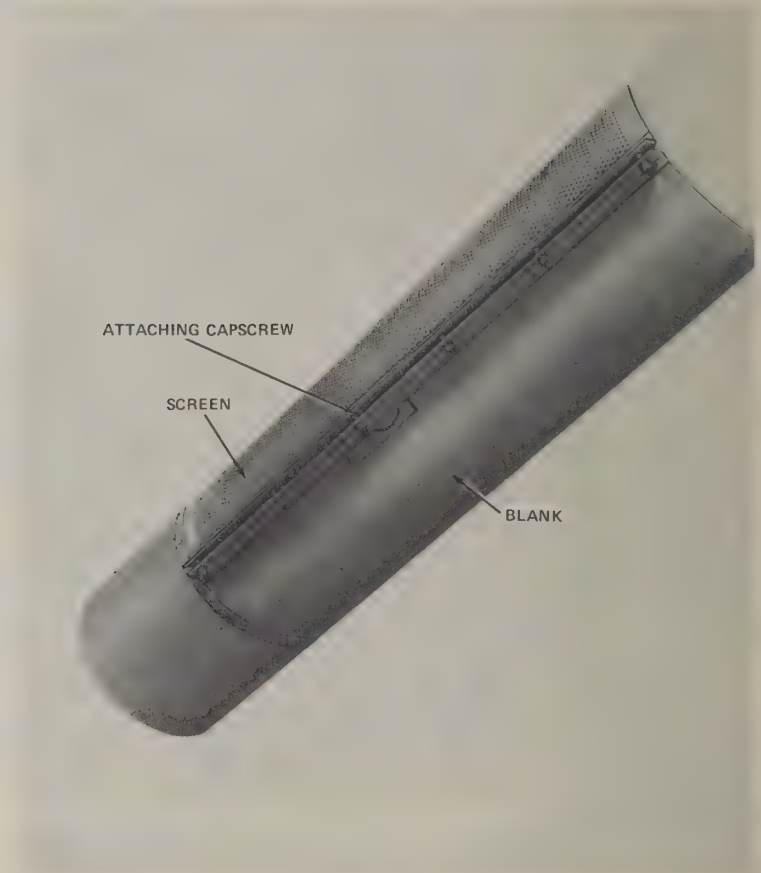


FIG. 14

area is over opening, then the capscrews are tightened.

Fig. 14-When screening is not wanted or needed, loosen capscrews, turn tube so blank is over hole then tighten capscrews.

SPECIAL EQUIPMENT (Cont'd)



FIG. 15

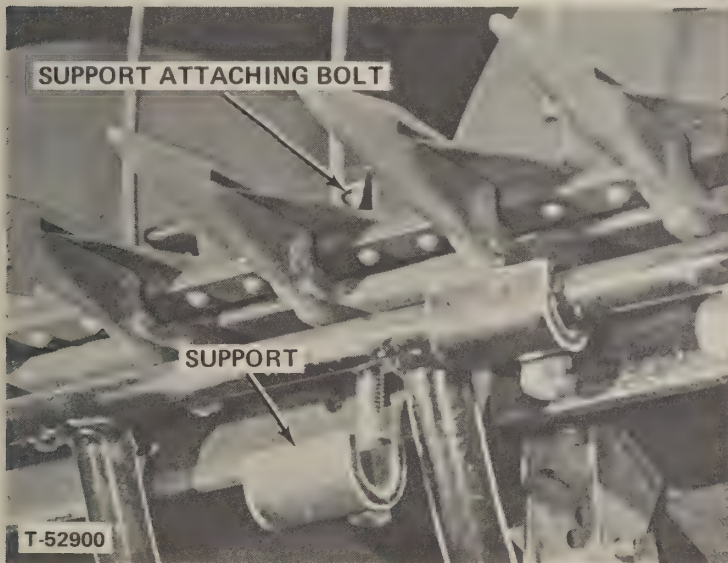


FIG. 16

HEADER HEIGHT CONTROL (Figs. 15, 16, 17)

Attach the feeler bar to the cutter bar as shown in Figs. 15 thru 17. Attach the feeler bar with the supports at the 3rd sickle guard from each end. Attach 2 supports on 1st. guard to the right of the pan support. Space remaining supports equally.

Figs. 17 & 18

Assemble bearing cable connector to the bellcrank and then fasten bellcrank assembly to the bellcrank support.

Place the complete assembly on bottom of the pan bottom, as shown in Fig. 17, make sure the roller is in line with the finger and the complete assembly parallel with the pan bottom support. Mark the front attaching hole of the bellcrank support 2" to the rear of the cutter bar angle (Fig. 18) and drill the (5) $9/32$ " holes thru the pan bottom to attach the bellcrank support to the pan bottom.

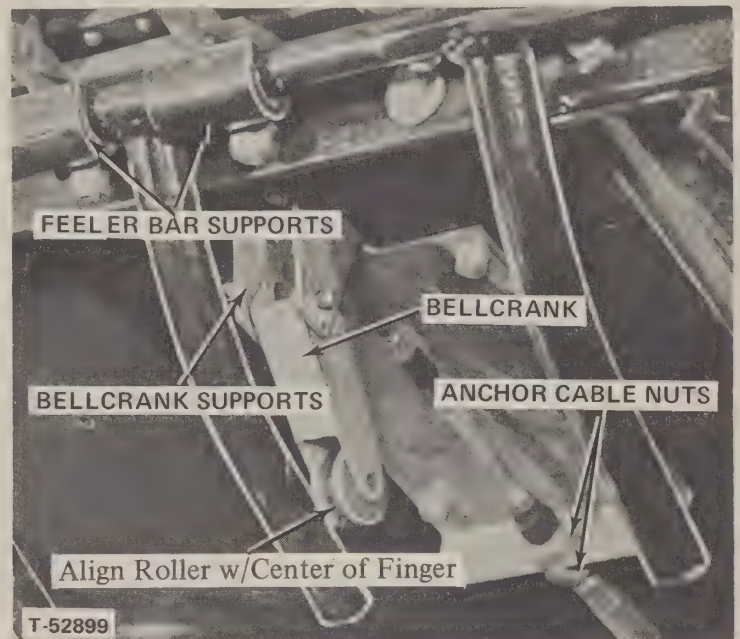


FIG. 17

Fasten the cable to the connector block as shown in Figs. 17 and 18,, with cable screwed into the block $1/4$ ". Tighten lock nut.

On each end of the pan bottom 7 inches to the rear of the cutter bar and outside the outer finger, drill a $13/32$ " hole for the chain anchor on each end of the feeler bar. See Fig. 18.

HELPER SPRING SETTING - Fig. 19 & 20

To set helper spring tension on the lift cylinders, insert pressure gauge (min. 3000 PSI) in the tee located below the flow control valve in the line to the cylinder. Lower the header to the ground, push the header lift control down until spool in the valve is in the detent position. Depress the actuating lever until header just starts to raise. At this time the gauge should read 225 PSI.

SPECIAL EQUIPMENT (Cont'd)

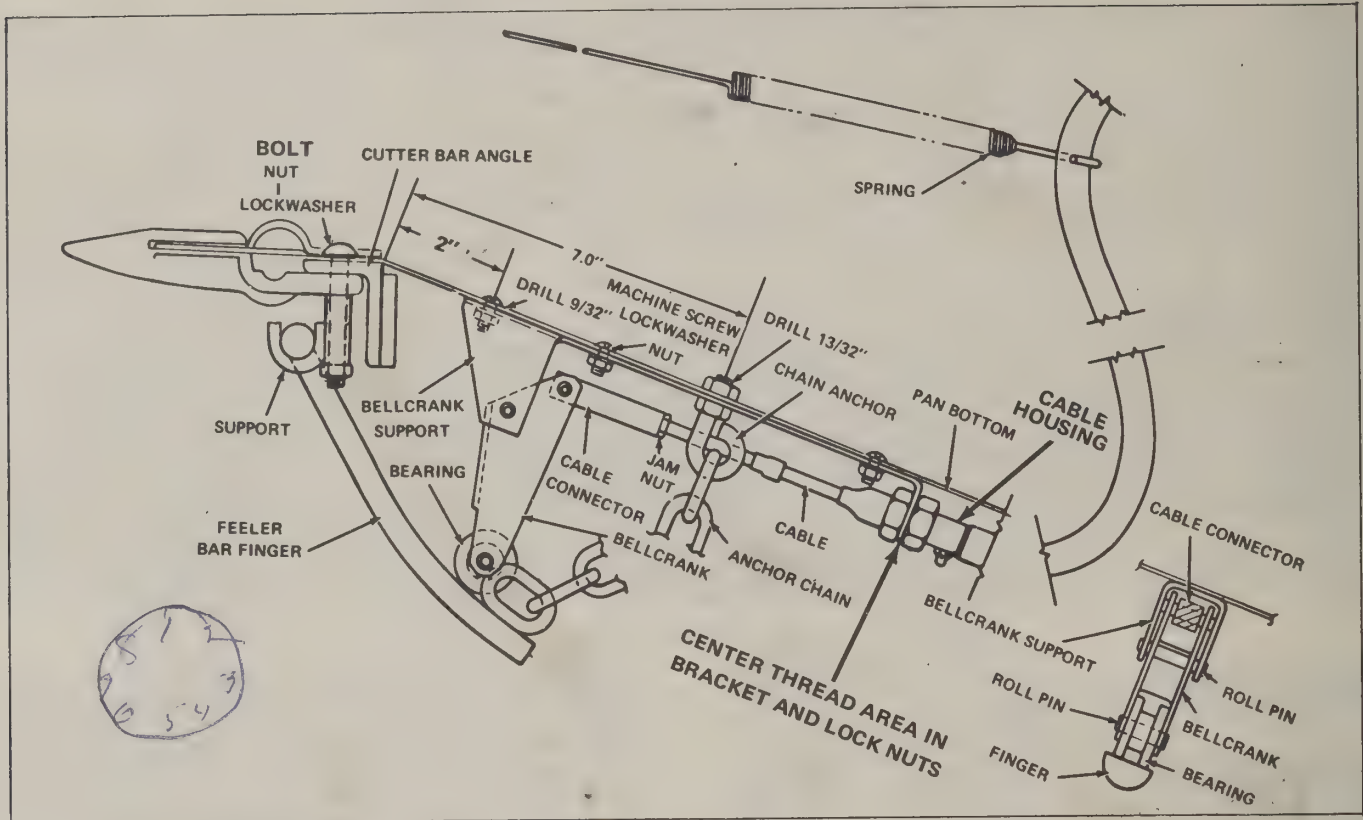


FIG. 18

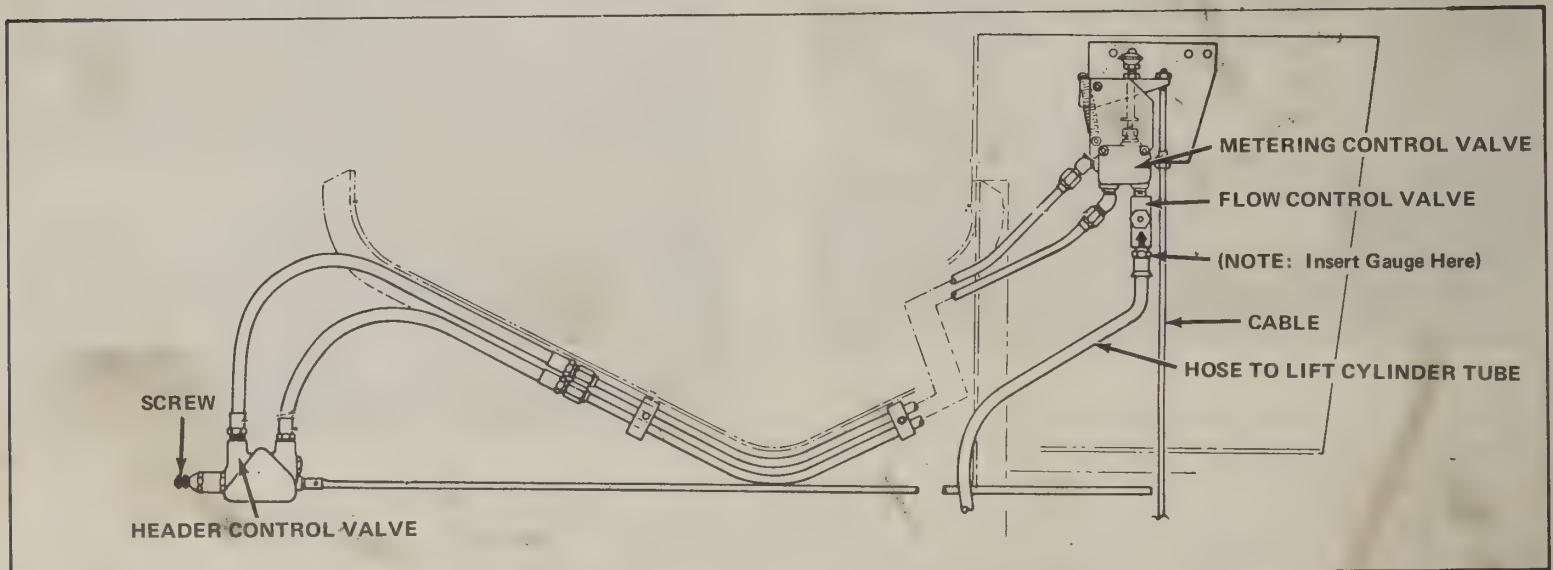


FIG. 19

Make sure the bolts on the spring collars are tightened to 50 ft. lbs. Mark the location of the collars on the cylinders for future reference.

HEADER CONTROL VALVE SCREW -
Fig. 19

Adjust screw out far enough on header control valve to allow the header spool to stay in a detent position when control lever at the console is in low position.

When not using the height control, adjust screw in far enough to prevent the spool from going into the detent position.

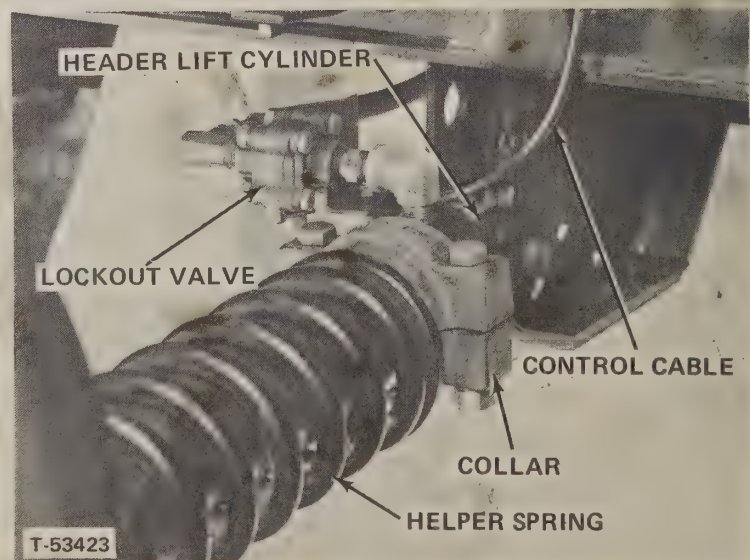


FIG. 20

SPECIAL EQUIPMENT (Cont'd)

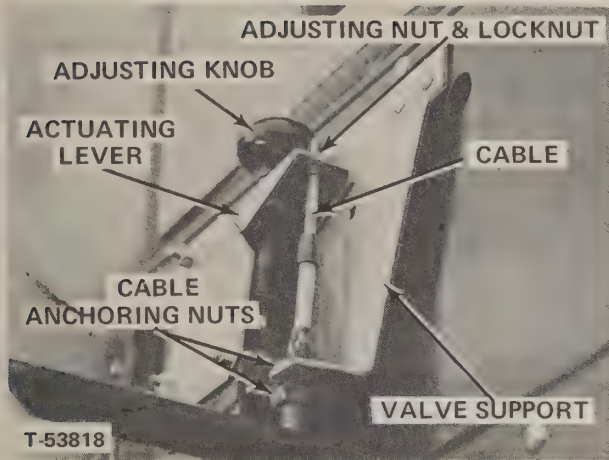


FIG. 21

Fig. 21 & 22

Fasten cable housing to the valve support bracket, center the threaded area in the bracket opening and lock nuts.

Insert cable through hole in the end of the actuating lever, install nut on end of cable.

Attach the spring furnished to the cable and fasten the other end of the spring to the R.H. header brace, as shown in Fig. 22.

ADJUSTMENT AND OPERATION

Operate engine until hydraulic oil is warm. Lower header, pushing the header lift spool into detent position. Turn the adjusting nut on cable against actuating lever until header just starts to raise, install locknut and tighten.

To raise cutting height above initial setting, turn in on adjusting knob until desired height is obtained.

FLOW CONTROL VALVE - Fig. 19

The flow control valve controls the rate of drop of the header. If header drops too fast or header height fluctuates turn the knob in until the desired operation is obtained.

REMOVING THE HEADER

It will be necessary to loosen the helper springs when removing the header. By marking the location of the set collars on the lift cylinder it will eliminate the use of the pressure gauge when remounting the header.

Remove the cable at the actuating valve and valve support.

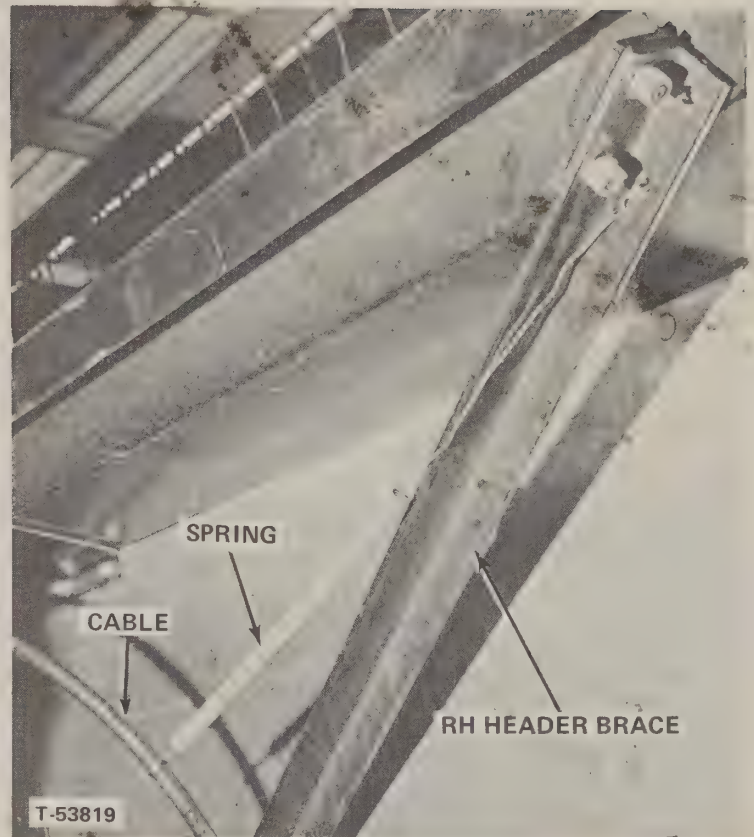


FIG. 22



FIG. 23

HEADER RAM STOP SAFETY VALVE - Fig. 20, 23

To close and lock shut off valve

1. Raise header to maximum height.
2. Turn handle counterclockwise and pull all the way out.
3. Rotate handle clockwise to lock.
4. Actuate header control to see that valve is closed.

To unlock and open shut off valve.

1. Start engine and raise header to maximum height.
2. Turn handle counterclockwise.
3. Push handle all the way in turn clockwise to lock.

COMBINE OPERATION

OPERATING CONTROLS

NO.	FIG. NO.	DESCRIPTION	MANNER OF OPERATION
1	3	Bin unloader drive control lever	Squeeze lever. Pull lever upward to engage drive.
2	1	Governor control lever	Move lever forward to increase engine speed. Move lever rearward to decrease engine speed.
3	1	Choke lever (Gasoline Engine)	Move lever rearward to choke engine.
4	1	Flasher light switch	Pull out to operate light.
5	1	Ignition switch	Turn key to extreme right position to start engine. Release key when engine starts.
6	1	Operating light's switch	Pull out to turn light on.
7	1	Oil gauge	-----
8	1	Ammeter gauge	-----
9	1	Gear selector lever	Depress transmission clutch pedal before moving lever to desired position.
10	1	Reel lift and variable speed reel lever (Optional Attachment)	Pull up to raise reel. Push down to lower reel. Push forward to increase reel speed. Pull rearward to decrease reel speed.
11	1	Variable speed traction drive and header lift lever	Pull rearward to decrease ground speed. Push forward to increase ground speed. Pull up to raise header. Push down to lower header.
12	1	Concave door warning light	Blinking light indicates that the safety door latch has allowed concave door beneath cylinder to open. This allows an obstruction to pass from the cylinder area. Stop combine, inspect cylinder and concave and relatch door or transmission brake is on.
13	1	Temperature gauge	-----
14	2	Cylinder speed adjusting wheel	Turn wheel clockwise to increase speed. Turn opposite direction to decrease speed.
15	1	Cylinder speed indicator	-----
16	3	Separator drive clutch lever	Pull up to disengage clutch. Push down to engage clutch.
17	3	Clutch pedal	Depress pedal to stop ground travel and to shift transmission gears.
18	3	Steering wheel position selector knob (On Power Steering Models only)	Pull up on knob. Tilt steering column to desired position. Release selector knob.
19	3	Transmission brake (Parking Brake) pedal	Depress pedal and engage latch to release brake. Move latch rearward and tap pedal quickly and solidly with foot.

COMBINE OPERATION (Cont'd)

OPERATING CONTROLS

NO.	FIG. NO.	DESCRIPTION	MANNER OF OPERATION
20	3	L.H. turning brake pedal	Use to assist when turning left.
21	3	R.H. turning brake pedal	Use to assist when turning right.
22	3	Transmission brake latch	Move forward to engage latch.
23	2	Fan speed adjusting crank	Turn crank clockwise to increase speed. Turn opposite direction to decrease speed.

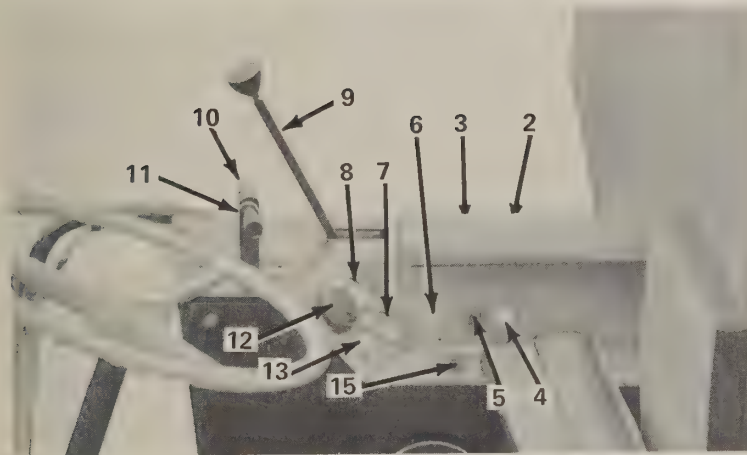


FIG. 1

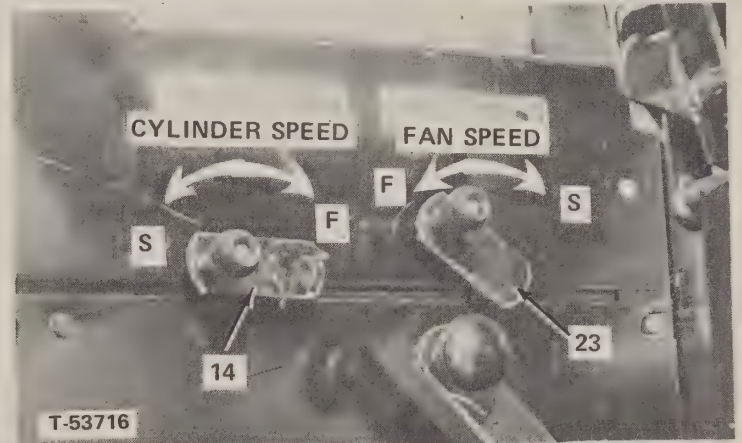


FIG. 2

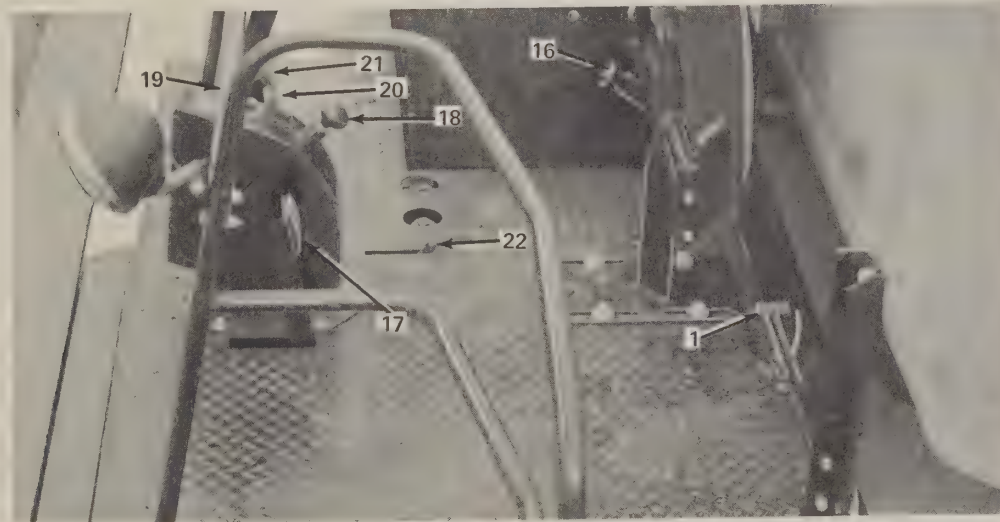


FIG. 3

COMBINE OPERATION (Cont'd)

OPERATING CONTROL

The operator should be familiar with all combine controls before attempting to operate the combine.

TRANSMISSION GEAR SHIFT LEVER

The transmission has three forward speed ranges and one reverse. The gears are shifted in a standard automotive pattern. The operator must depress the clutch foot pedal to shift the transmission gears from any position to another.

Always place the gear selector lever in neutral when starting, stopping, or parking the combine. Never depress the clutch or place the transmission in neutral to "coast" downhill.

A new operator, not yet thoroughly familiar with the combine, should begin his field operation with the transmission placed in the 1st gear position.

TRANSMISSION CLUTCH

The transmission clutch is operated by the clutch pedal at the left of the steering column. Pressing down on the pedal will disengage the transmission clutch.

The clutch pedal must be depressed to shift the transmission gears and to stop the ground travel of the combine.

IGNITION SWITCH

The ignition switch controls the ignition and starting motor electrical circuits. There are three positions to which the ignition key can be turned: "off", "on" and "starting" positions.

The ignition circuit is turned off when the ignition key is straight up and down. By

turning the key toward the right to the next position, the ignition circuit is turned "on". When the key is in this position, all of the instrument panel gauges are functional.

Turning the key further to the right will cause the starting motor circuit to be energized. When the key is in this position (starting position) the starting motor will engage the engine flywheel and begin to turn the engine crankshaft.

As the engine shows the first sign of running, the ignition key should be released immediately. The ignition switch contains a spring which will automatically turn the key back to the "on" position when it is released. This will prevent damage to either the engine flywheel or to the starting motor.

ENGINE CHOKE

The engine choke is mounted on the R.H. side of the arm rest. Pull the lever rearward to choke the engine. This will increase the amount of gasoline in the carburetor air-fuel mixture and assist in starting the engine when it is cold.

Once the engine is running, return the choke lever to its off position (forward). If the choke is not released, the engine will flood and quit running.

GOVERNOR CONTROL LEVER

The governor control lever regulates the engine speed. It is mounted on the R.H. side of the arm rest.

Pull the lever rearward to slow the engine speed. Move the lever forward to increase the engine speed. Set the lever about one-half the way forward when starting engine.

COMBINE OPERATION (Cont'd)

OPERATING CONTROL

OIL PRESSURE GAUGE

The oil pressure gauge is on the instrument panel. If oil pressure should drop, stop engine immediately.

WATER TEMPERATURE GAUGE

The water temperature gauge is on the instrument panel. The needle should be in the operating range when engine is running. Stop engine if needle goes beyond operating range.

AMMETER GAUGE

The ammeter gauge is on the instrument panel. The needle will move either to the right (+) or to the left (−) which indicates either a positive or negative charging rate. Under normal electrical load demands, the charging rate will cause the needle to move from the center of the gauge toward the (+) side.

LIGHT SWITCHES

There are two light switches. The one on the left is for the operating lights. The one on the right side of ignition switch is for the flasher light. Pull switch to turn lights on.

STEERING BRAKE PEDALS

Each drive wheel may be equipped with a hydraulically activated steering brake. This brake assists the operator in making turns.

On the R.H. side of the steering wheel column are three foot pedals. The outer R.H. two pedals are close to each other and are separated slightly from the inner pedal. These two pedals operate the hydraulic steering brakes.

The L.H. one of the two steering brake pedals controls the L.H. drive wheel steering brake. The R.H. one controls the R.H. steering brake.

Press down on the proper brake pedal to activate the steering brake on the side in the direction a turn is being made.

Use the steering brakes in turning only. Do not step on any one of the steering brake pedals when traveling upon public roadways.

Always turn the steering wheels before applying the brakes.

TRANSMISSION PARKING BRAKE PEDAL

The transmission parking brake pedal is next to the R.H. side of the steering column. It is connected by a linkage to a band type brake on the transmission.

To set the parking brake, press down on the parking brake pedal. Move the brake latch forward while still holding the parking brake down. The brake latch is at the bottom of the parking brake pedal and sticks up through a slot in the platform floor. When brake latch is forward, remove foot from the parking brake pedal.

To release the parking brake, move the brake latch rearward. Sharply tap the parking brake pedal to release it.

VARIABLE SPEED AND HEADER LIFT LEVER

At the front of the arm rest are two levers. The L.H. lever is the variable speed and header lift lever.

VARIABLE SPEED:

The variable speed increases or decreases the speed at which the combine travels. Operate the variable speed as follows:

Place the transmission in gear. Pull rearward on the variable speed control lever. This will cause the combine to travel at its slowest speed within the gear range selected. Release the transmission clutch pedal. When the combine is moving, push forward on the variable speed control lever. This will increase the ground speed of the combine.

Note that the variable speed will change the ground speed within the minimum and maximum speeds provided by the gear selected. If a faster ground speed is needed, move the transmission to the next highest gear and again use the variable speed lever to obtain any ground speed within the limits of the next highest gear.

The speeds obtained with the variable speed will depend upon the engine speed also. When harvesting, the engine must be operating at its rated speed. This is obtained when the governor control lever is completely forward.

COMBINE OPERATION (Cont'd)

OPERATING CONTROL

NOTE: If combine should ever become stuck in mud or at any time when the traction drive belt is under a heavy load, move the traction drive lever until the traction drive and driven sheaves are in a 1-1 ratio. This will prevent possible damage to belt.

HEADER LIFT

This lever also controls the raising or lowering of the header. Pull up on the lever to raise the header. Push down on the lever to lower the header. The lever will automatically return to the center "hold" position when it is released.

VARIABLE SPEED REEL AND REEL LIFT LEVER(Optional Equipment)

At the front of the arm rest are two levers. The R.H. lever is the variable speed reel and reel lift lever.

VARIABLE SPEED REEL

Pull rearward on the lever to decrease the reel speed. Push forward to increase reel speed.

REEL LIFT

Pull up on lever to raise the reel. Push down on lever to lower the reel.

STEERING WHEEL TILT(with Power Steering)

Pull up on knob on base of steering column and tilt the steering column to the position most comfortable to the operator.

SEPARATOR CLUTCH CONTROL LEVER

This control is below and to the R.H. side of the operators seat. Push down on the lever to engage the separator clutch. Pull up to release the clutch. Engage the clutch slowly.

The separator clutch is the part of the separator drive which enables the operator to start and stop the operation of the combine. It is located on the R.H. side of combine.

Engaging the clutch will start all combine separator components except the bin unloading auger.

BIN UNLOADER DRIVE CONTROL LEVER

This lever is on the platform at L.H. side of

operators seat. Squeeze the handle and pull lever in. This will engage the bin unloader drive.

To stop the unloader auger, squeeze the handle and push out on the lever. Operate the engine at about 1/2 of its maximum operating speed. The bin unloading tube should be in position before filling grain bin.

CYLINDER SPEED ADJUSTING WHEEL

The cylinder speed adjusting wheel is on the side of the control console. The cylinder speed can be varied when harvesting to meet changing crop conditions.

There is a relative speed indicator on the control console that indicates whether or not the operator is speeding up or slowing down the cylinder.

Turn the wheel clockwise to increase the cylinder speed. Turn wheel in opposite direction to decrease the cylinder speed.

CONCAVE DOOR WARNING LIGHT

This light is mounted on the control panel. Whenever the concave door opens, the red light will come on and begin blinking.

The concave door has a spring loaded latch that permits the door to open under the extreme heavy shock loads caused by a stone, stump, etc.

This is a safety device built into your combine. It eliminates damage to the cylinder and concaves.

The door must be closed when the light comes on. A door wrench is provided for this purpose.

CLOSING THE CONCAVE DOOR

Whenever it becomes necessary to close the concave door, follow this procedure:

1. Stop harvesting grain.
2. Raise the header and stop combine (Including the engine).
3. Place the safety stop over the L.H. header lift ram.
4. Inspect the cylinder and concave area for any physical damage.
5. Close the concave door, using door wrench to push the latch over center.
6. Remove safety stop from L.H. header lift ram.

COMBINE OPERATION (Cont'd) OPERATING CONTROL



FIG. 2

FRONT LADDER LATCH - Fig. 2

It is sometimes necessary to operate with ladder in the raised position, also when storage space is limited it is convenient to have ladder raised up out of the way. A latch is provided to automatically lock ladder upright when it is lifted to a vertical position. Ladder is released by pulling up on the ladder then lifting hook from latch.

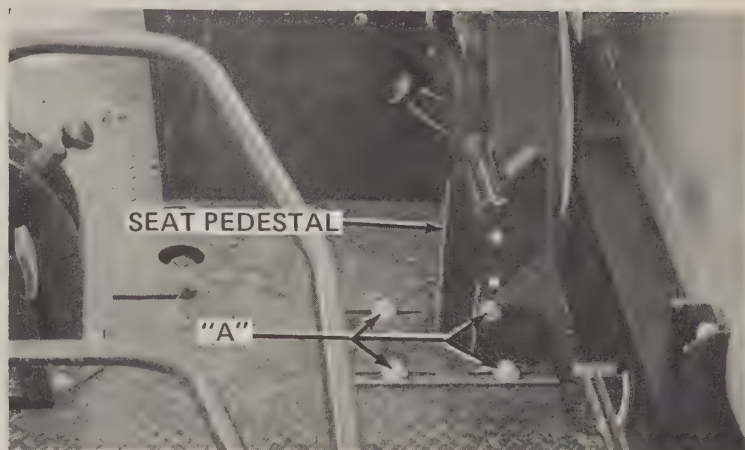


FIG. 3

OPERATORS SEAT - Fig. 3

The seat pedestal is movable forward or rearward to adjust for operators height. Loosen bolts "A" to move pedestal.

COMBINE OPERATION (Cont'd) OPERATING CONTROL

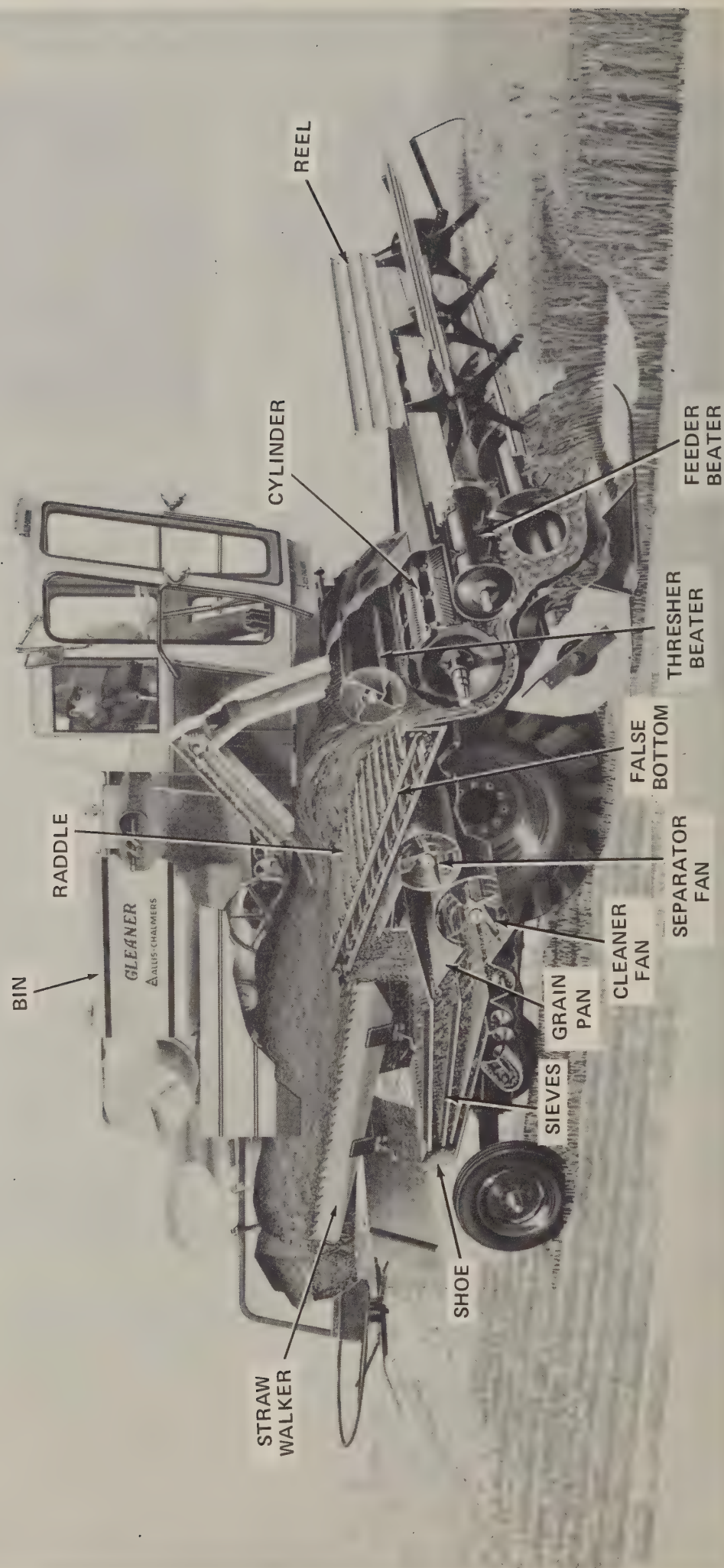


FIG. 4 - FUNCTION OF MODEL K COMBINE

FUNCTION OF MODEL K

There are four steps in harvesting grain; cutting and feeding, shelling, separating and cleaning. To operate your combine with best results, you must know the different sections of the harvester and the functions of each in the four steps of harvesting.

First is the cutter bar which is the leading edge of the header. With its guards and knife section it cuts the crop. After the crop is cut the reel feeds it evenly onto the header. The auger then moves the grain to the center of the header where the retractable auger fingers feed the material into the feeder beater. The feeder beater feeds the grain and straw directly and evenly into the cylinder. The cylinder with its eight drop forged steel cylinder bars rotates past the five steel concave bars shelling the grain from the straw. All of the shelling is done at this point. The threshing beater distributes the threshed material onto the raddle and aids in separation of grain and straw.

The front raddle allows the grain to fall between the raddle slats as the material is carried over a false bottom to a high point in

the separator. The grain then drops through an air blast from the separator fan onto the shoe grain pan.

As the material moves from the front raddle onto the straw walker it passes through a blast of air from the separator fan and under the separator beater which together with three rotary walkers vigorously shake the straw so that any remaining grain is removed before the straw is discharged from rear of machine.

As the straw and excess chaff is being carried out the rear of machine the cleaner shoe is doing the final job of cleaning. The shaking action of the shoe moves the grain from the grain pan onto the sieves where the cleaner fan directs air flow through the sieves for final cleaning operation.

The clean grain elevator carries the grain to the bin and any tailings material is returned to the cylinder housing for re-threshing.

FIELD OPERATION

Before operating the combine in the field read this manual completely. Refer to the adjustment section and check all adjustments. Make adjustments where necessary. Refer to the lubrication section and lubricate your combine as indicated.

If the combine is equipped with a corn head, the operator must refer to the corn head manual to find operating, adjustment and lubrication information.

Refer to the cylinder and shoe adjustment chart. Read across from the crop to be harvested and find the required cylinder speed, number of recommended concaves, cylinder clearance, fan RPM, chaffer setting and sieve setting.

These settings are for average harvesting conditions. Any one may have to be changed to meet your specific field condition.

However, if the crop is in proper condition for harvesting and weather is favorable, very little extra adjustment will be necessary. If weather is damp or in territories where humidity is high it may be necessary to make some changes between damp and dry part of day. If crop is damp it may require higher cylinder speed or less cylinder clearance. The adjustable chaffer and adjustable sieve may need to be opened wider and wind doors may need to be closed farther. When crop is extremely dry the adjustments are the opposite.

The chart gives size of finishing sieve used for various crops with normal seed. However, if seed is larger than normal a finishing sieve having larger openings may be necessary or if seed is smaller than normal, one with smaller openings may be better. See your dealer for sieves other than those listed in chart.

When it is necessary to make adjustments different from those given in the chart it is well to give a little thought to conditions and the cause.

Enter the field of the crop to be harvested. Swing the unloader tube around and fasten it in the operating position.

If the crop to be harvested is small grain that is broadcast or drilled when planted, lay out a harvesting plan that will allow you to drive with the unloading auger extending on side where grain has been harvested. This will allow the operator to unload the grain bin into a wagon or truck without having to turn the combine. Also, if time is of essence, the operator can unload the grain bin "on-the-go" as the wagon or truck can drive along side the combine beneath the unloading tube.

If the crop is a row crop such as maize or corn, the most important thing is to be sure to pick out mating rows.

Release the parking brake. Place the combine transmission into 1st gear and pull the variable speed control lever back, so that the combine ground speed will be as slow as possible. Once the operator becomes familiar with the combine, he can increase the ground speed to such an extent as crop and field conditions allow.

Idle the engine and slowly engage the separator clutch. The clutch will snap over-center when engaged.

Move the governor control lever (throttle) all the way forward. This will set the engine speed at its rated load speed. The engine must be running at this speed at all times when the combine is working. If the combines ground travel must be slowed, use the transmission and the variable speed control. Do not slow the engine speed. All parts of the feeding, threshing, and separating housings are designed to work at a speed relative to the rated engine speed. Their ability to do an efficient job will be greatly lowered if engine speed is reduced.

Lower the header. The height to which the header is lowered will depend upon the crop to be harvested and its condition.

For example, most soybeans fruit down to the ground. Consequently it is almost always necessary to lower the header to the ground when harvesting soybeans.

In small grain, such as wheat or oats, it will normally not be necessary to lower the grain head as low.

If the grain is standing well, it is only necessary to lower the header slightly below the lowest heads of grain. There must be enough straw with the heads, so that the grain feeds evenly into the combine.

Release the clutch pedal to start the forward travel of the combine. As you are moving, note how the material is feeding. For best feeding of the grain, adjust the reel speed by moving the reel drive belt to proper sheave. The reel speed should be just slightly faster than the ground speed of the combine. This will keep the front of the grain head clear of grain and will prevent plugging. If reel speed is too fast, cut material may be carried around by the reel.

Reel height adjustment is important. Adjust the height of the reel. The reel bats should

FIELD OPERATION (Cont'd)

contact the grain just below the grain heads so reel will not wrap or shatter the grain heads.

As you are harvesting the grain, look through the inspection door in the tailings return elevator on your R.H. side. This elevator carries unthreshed grain heads from the shoe back to the cylinder where they are again run through the cylinder to be threshed.

Take a sample of the material coming up through the tailings return elevator. Note the relative number of unthreshed heads. Note also the amount of threshed grain within the material.

If grain is not being threshed from the head or pod it may be necessary to increase cylinder speed or decrease concave clearance or both.

If an excessive amount of threshed grain is present, the adjustable sieve may need to be opened to allow grain to drop through. Do not open it so much that unthreshed heads drop through as these will be carried by the clean grain elevator up into the grain bin.

After a sufficient amount of grain has been harvested to get a good sample of the grain in the field, stop the combine. Look into the grain bin. Note the amount of chaff or other foreign material. Inspect the sample for cracked grains. Note the amount of unthreshed heads.

If grain is being hulled or cracked reduce cylinder speed or increase concave clearance or both.

If an excessive amount of chaff and other lighter foreign material is in the grain bin, the fan speed should be increased slightly to increase the amount of air being blown through the shoe. Excessive air, however, can blow grain out the back of combine. Air doors may be installed if the volume of air needs to be reduced more than the variable speed fan will permit. This may be the case when combining light seeds.

Unthreshed heads in the grain bin may be because the adjustable sieve is opened too wide. Also, the cylinder speed may be too slow or the cylinder to concave clearance is too wide. This would cause an excessive amount of unthreshed grain. The operator should also consider the condition of the grain as to the amount of moisture it contains and its stage of maturity.

Walk out behind the combine and inspect the ground for kernels of grain. A true picture

can not be seen until the operator inspects the ground ahead of the combine also, a good operator will always determine the amount of field loss ahead of the combine.

By looking both ahead of the combine and behind it, the operator can determine the relative amount of grain, if any at all, which is being lost by the combine itself.

If it is determined that the combine is losing an excessive amount of grain, think of reasons why grain is being lost before making adjustments. A few inexperienced operators will automatically start making adjustments at the rear of the combine because it is at the back of the combine where the lost grain was found. The problem may or may not lie here at the back of the combine. Grain loss at the back may be caused by mis-adjustments at the front.

If the cleaning shoe is overloaded with chaff any one of all of several adjustments may be contributing to the cause. Check clearance between cylinder and concave bars. If straw is very brittle then clearance should be increased or concaves removed to prevent breaking too fine. Open adjustable chaffer enough to permit unthreshed grain to fall through. Open adjustable sieve just enough to allow threshed grain to fall through but carry the unthreshed heads into tailings conveyor. To obtain maximum cleaning capacity keep sieve and chaffer in their lowest position.

Use enough air to float all chaff but permit the grain to fall through.

Special equipment such as spike tooth cylinder and concaves, rubber cylinder bars and concaves are available and may be a necessary installation to properly thresh some crops.

Remember also, that grain found behind the combine may have been knocked from the head by the reel if reel is misadjusted.

For assistance in solving a field problem, refer to "Operation Aid" section.

After making adjustments start the combine and operate it for awhile to check the results.

When it is time to unload the grain bin, operate the engine with the governor control lever about 1/2 of the way forward. Slowly engage the unloader drive and empty the grain bin.

As you operate the combine listen for any unusual noise that may be a slip clutch slipping. Occasionally check tension of belts and chains. Remember, a good operator is a safety minded operator.

BASIC SETTINGS FOR NORMAL CONDITIONS

FOR BEST THRESHING

Engine

1. Set at recommended RPM for total power.

DRIVES

1. Belts tight.

Cylinder

1. Maximum cylinder speed up to point of seed crackage. For maximum capacity.
2. Minimum concave clearance - For even shelling and prevention of cylinder wrapping.
3. Minimum number of concaves - To prevent overthreshing.

FOR BEST SEPARATION AND CLEANING

Shoe

1. Maximum air volume without blowing seed out.
2. Chaffer lower at rear - For best air pattern.
3. Maximum chaffer opening, up to 5/8", without overloading sieve.
4. Sieve mounted in lower holes.
5. Minimum adjustable sieve opening - Enough for seed passage only.

CROP	SIZE SCREEN MOST USED	SIZE SCREEN FOR SPECIAL CONDITIONS
Alfalfa	1/20 round	4½/64 round; 1/25 round
Barley	.165 Tri.	.125 Tri.; .171 Tri.; .140 Tri.
Beans — Faba or Horse	11/64x3/4 slot	5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Bountiful	11/64x3/4 slot	5/32x3/4 slot; 3/16 round; 7/32 round
Beans — Blackeye	3/32x3/4 slot	1/8x3/4 slot; 5/32 round; 3/16 round
Beans — Baby Lima	3/32x3/4 slot	1/8x3/4 slot; 11/64x3/4 slot; 5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Claybank	3/32x3/4 slot	1/8x3/4 slot; 5/32 round; 3/16 round
Beans — Cranberry	11/64x3/4 slot	1/8x3/4 slot; 5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Ebony	5/64x1 slot	1/8x3/4 slot; 5/32 round; 3/16 round
Beans — Gt. Northern	1/8x3/4 slot	5/32 round; 11/64x3/4 slot; 3/32x3/4 slot; 5/32x3/4 slot; 3/16 round
Beans — Garvanza	11/64x3/4 slot	1/8x3/4 slot; 5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Italian	11/64x3/4 slot	5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Ky. Wonder	1/8x3/4 slot	5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Kidney	3/32x3/4 slot	1/8x3/4 slot; 5/32x3/4 slot; 11/64x3/4 slot; 5/32 round; 3/16 round
Beans — Mung	5/64x1 slot	3/32x3/4 slot; 5/32 round; 3/16 round; .125 Tri.
Beans — Navy	3/32x3/4 slot	1/8x3/4 slot; 5/32x3/4 slot; 11/64x3/4 slot; 5/32 round; 3/16 round
Beans — Pinto	5/32x3/4 slot	11/64x3/4 slot; 5/32 round; 3/16 round
Beans — Red Mex.	11/64x3/4 slot	1/8x3/4 slot; 5/32x3/4 slot; 5/32 round; 3/16 round
Beans — Soy	3/16 round 11/8x3/4 slot	3/32x3/4 slot; 5/32x3/4 slot; 11/64x3/4 slot; .165 Tri.; 5/32 round
Beans — Velvet	11/64x3/4 slot	1/8x3/4 slot; 5/32x3/4 slot; 5/32 round; 3/16 round
Buckwheat	.125 Tri.	4½/64 round; 1/12 round; .140 Tri.
Clover — Alsike	1/25 round	4½/64 round; *5/32 round; 1/20 round; 1/12 round
Clover — Birdsfoot Trefoil	1/25 round	4½/64 round; 1/20 round
Clover — Crimson	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Dutch	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Giant Eng.	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Hop	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Huban	1/20 round	4½/64 round; 1/25 round
Clover — Ladino	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Persian	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Red	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — Sweet	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Clover — White	1/20 round	4½/64 round; *5/32 round; 1/25 round; *.125 Tri.
Flax	1/12 round	4½/64 round; 5/64x1 slot
Fuzzy Cheat	1/20 round	4½/64 round; 1/25 round; 1/12 round
Grass — Bent	1/20 round	4½/64 round; 1/25 round
Grass — Blue or June	1/20 round	4½/64 round; 1/25 round
Grass — Big Blue Stem	1/20 round	4½/64 round; 1/25 round
Grass — Brome	4½/64 round	1/20 round; 1/12 round
Grass — Bermuda	1/20 round	1/25 round; 1/12 round
Grass — Canary	1/20 round	4½/64 round; 1/25 round
Grass — Carpet	1/20 round	4½/64 round; 1/25 round
Grass — Canadian Rye	1/20 round	4½/64 round; 1/25 round
Grass — Crested Wheat	4½/64 round	1/20 round; 1/25 round; 1/12 round
Grass — Dallis	4½/64 round	1/20 round; 1/25 round; 1/12 round
Grass — Eng. Rye	4½/64 round	1/20 round; 1/25 round; 1/12 round
Grass — Grama	1/20 round	4½/64 round; 1/25 round; 1/12 round
Grass — Indian Rice	.165 Tri.	.125 Tri.; .171 Tri.; .140 Tri.
Grass — Johnson	4½/64 round	1/20 round; 1/25 round; 1/12 round
Grass — Orchard	1/20 round	4½/64 round; 1/25 round
Grass — Rhodes	*.165 Tri.	4½/64 round; 1/20 round; 1/12 round
Grass — Sudan	4½/64 round	1/20 round; 1/25 round; 1/12 round
Grass — Sand Drop	1/20 round	4½/64 round; 1/25 round; 1/12 round
Grass — Western Wheat	4½/64 round	1/20 round; 1/12 round
Hegari	1/12 round	4½/64 round; 1/20 round

CROP	SIZE SCREEN MOST USED	SIZE SCREEN FOR SPECIAL CONDITIONS
Kaffir	1/12 round	4½/64 round; 1/20 round
Lespedeza — Korean	4½/64 round	1/20 round; 1/25 round; 1/12 round
Lespedeza — Kobe	4½/64 round	1/20 round; 1/25 round; 1/12 round
Lespedeza — Sericea	4½/64 round	1/20 round; 1/12 round
Lespedeza — Tenn. No. 76	4½/64 round	1/20 round; 1/12 round
Millet — Common	1/20 round	4½/64 round; 1/25 round; 1/12 round
Millet — Hog or Proso	1/20 round	4½/64 round; 1/25 round; 1/12 round
Maize	1/12 round	4½/64 round; 1/20 round; .125 Tri.
Mustard	4½/64 round	1/20 round; 1/12 round
Oats	.125 Tri. §.165 Tri.	.171 Tri.; .140 Tri.
Peas — Alaska	3/32x3/4 slot	9/64x3/4 slot; 5/32 round
Peas — Aust. Field	3/32x3/4 slot	9/64x3/4 slot; 5/32 round
Peas — Chinese Red	3/32x3/4 slot	1/8x3/4 slot; 9/64x3/4 slot; 3/16 round
Peas — Cow	3/32x3/4 slot	1/8x3/4 slot; 9/64x3/4 slot; 3/16 round
Peas — Lady	3/32x3/4 slot	9/64x3/4 slot; 5/32 round; 3/16 round
Peas — Table	3/32x3/4 slot	1/8x3/4 slot; 9/64x3/4 slot; 5/32x3/4 slot; 11/64x3/4 slot
Peas — Whipoorwill	3/32x3/4 slot	1/8x3/4 slot; 9/64x3/4 slot; 3/16 round
Rape	.165 Tri.	.171 Tri.; .140 Tri.; .125 Tri.
Rye	.165 Tri.	.171 Tri.; .140 Tri.; .125 Tri.
Red Top	1/20 round *.165 Tri. *.140 Tri. *.125 Tri.	4½/64 round; 1/12 round
Sorgo	1/12 round	4½/64 round; .140 Tri.; .125 Tri.
Sunflower	.171 Tri.	.165 Tri.; 140 Tri.; 125 Tri.
Timothy	1/20 round	4½/64 round; 1/25 round; 1/12 round
Vetch	3/32x3/4 slot	5/32 round; 9/64x3/4 slot
Wheat	.165 Tri.	.171 Tri.; .140 Tri.; .125 Tri.

* Indicate reverse operation; with clean seeds delivered from weed spout and large dockage delivered from grain spout.

¶ ⅞x¾ slot screen will remove some splits in Soy Beans.

§ .165 screen used only in very dry Oats with low yield.

† 5/32x3/4 slotted used with Corn 25% moisture and higher.

1/8x3/4 slotted screen recommended for removing split beans when harvesting for seed.

9/64x3/4 slotted screen is used to separate oats from vetch or peas.

CYLINDER & SHOE ADJUSTMENT CHART

Kind of Crop	 Cylinder Speed Standard Drive	 Number of Concaves	Concave Clearance	Cleaning Fan *	Inches Chaffer Opening	Sieve Opening	Special Sieve
1. Alfalfa	1325	5	1/8 to 3/8	MINIMUM RPM - 337 - MAXIMUM RPM - 698 - START AT LOWEST RPM AND INCREASE RPM TO GET BEST SEPARATION	5/16		1/10 Rd.
2. Barley	1325	2-5	1/8 to 5/8		5/8	1/4	None used
3. Beans-Fava or Horse	800	0-3	3/8 to 1/2		5/16-3/8	3/16-1/4	None
4. Beans-Bountiful	265-715	1-3	3/8 to 5/8		5/16-1/2	3/16-3/8	None
5. Beans-Blackeye	265-715	1-3	3/8 to 5/8		5/16-1/2	3/16-3/8	None
6. Beans-Baby lima	265-715	2-5	3/8 to 5/8		5/16-1/2		9/16 Rd.
7. Beans-Clay bank	265-715	2-5	3/8 to 5/8		5/16-9/16	3/16-5/16	None used
8. Beans-Cranberry	265-715	2-5	3/8 to 5/8		5/16-1/2		9/16 Rd.
9. Beans-Ebony	265-715	3-5	3/8 to 5/8		5/16-1/2	3/16-5/16	None used
10. Beans-Great Northern	265-715	2-5	3/8 to 5/8		5/16-1/2		7/16 Rd.
11. Beans-Garbanza	265-715	3-5	3/8 to 5/8		5/16-1/2	3/16-5/16	None used
12. Beans-Italian	265-715	3-5	3/8 to 5/8		5/16-1/2		9/16 Rd.
13. Beans-Kentucky Wonder	265-715	3-5	3/8 to 5/8		5/16-1/2	3/16-5/16	None used
14. Beans-Kidney	265-715	3-5	1/8 to 1/2		5/16-1/2		9/16 Rd.
15. Beans-Mung	800-1000	3-5	1/8 to 1/2		5/16-1/2	3/16-5/16	None used
16. Beans-Navy	265-715	1-5	1/8 to 1/2		5/16-1/2		3/8 Rd.
17. Beans-Pinto	265-715	3-5	1/8 to 1/2		5/16-1/2	3/16-5/16	None used
18. Beans-Red Mexican	265-715	3-5	1/8 to 1/2		5/16-1/2	3/16-5/16	None used
19. Beans-Soy	800	1-3	1/8 to 5/8		1/2-5/8		5/16-7/16 Rd.
20. Beans-Velvet	800-1000	3-5	3/8 to 5/8		1/2-5/16	3/16-5/16	None used
21. Buckwheat	800-1325	1-3	3/8 to 5/8		1/2-5/8		3/8 Rd.
22. Clover-Alsike	800-1325	3-5	1/8 to 3/8		3/16-5/16		1/12
23. Clover-Birds Foot Trefoil	1325	1-5	1/8 to 3/8		3/16-5/16		1/14

There are some crops such as beans for which it is necessary to use spike tooth cylinder equipment for proper threshing when plants are damp and tough. When crop is very dry, then rubber cylinder bar equipment should be used. Rubber cylinder bars and fillers replace the rasp bars on the cylinder. The above items are available at your Allis-Chalmers Dealer.

 When removing concaves start with rear first. Leave concave on door. There are mounting holes for a sixth concave which can be installed when combining crops which are extremely hard to thresh.

 Slow speed cylinder equipment is available at your Allis-Chalmers Dealer.

* For crops that are light and need very little air install auxiliary doors. They are available at your ALLIS-CHALMERS Dealer.

CYLINDER & SHOE ADJUSTMENT CHART

Kind of Crop	 Cylinder Speed Standard Drive	 Number of Concaves	Concave Clearance	Cleaning Fan *	Inches Chaffer Opening	Sieve Opening	Special Sieve
24. Clover-Crimson	800-1325	3-5	1/8 to 3/8	MINIMUM RPM - 337 - MAXIMUM RPM - 698 - START AT LOWEST RPM AND INCREASE RPM TO GET BEST SEPARATION	3/16-5/16		1/10
25. Clover-Dutch	800-1325	3-5	1/8 to 1/4		3/16-5/16		1/14
26. Clover-Giant English	800-1325	3-5	1/8 to 3/8		3/16-5/16		1/14
27. Clover-Hop	1325	3-5	1/8 to 3/8		3/16-5/16		1/14
28. Clover-Huban	1325	2-5	1/8 to 3/8		3/16		9/64
29. Clover-Ladino	1325	2-5	1/8 to 3/8		3/16-5/16		1/14
30. Clover-Red	800-1325	3-5	1/8 to 3/8		3/16-5/16		1/12
31. Clover-Sweet	1325	2-5	1/8 to 3/8		3/16-5/16		9/64
32. Clover-White	800-1325	3-5	1/8 to 3/8		3/16-5/16		1/12
33. Fescue-Creeping	800-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4
34. Flax	1325	2-5	1/8 to 5/8		5/16		9/64
35. Fuzzy-Cheat	800-1325	3-5	1/8 to 3/8		3/8		5/32 x 3/4
36. Grass-Bent	1325	5	1/8 to 3/8		3/16-5/16		1/16 x 3/8
37. Grass-Blue	1325	3-5	1/8 to 3/8		3/16-5/16		1/16 x 3/8
38. Grass-Big Blue Stem	800-1000	3-5	1/8 to 1/4		3/16-5/16		5/32 x 3/4
39. Grass-Bermuda	1325	3-5	1/8 to 3/8		3/16-5/16		9/64
40. Grass-Brome	800-1325	3-5	1/8 to 1/2		3/8		5/32 x 3/4
41. Grass-Canary	800-1325	3-5	1/8 to 3/8		3/16-5/16		1/16 x 3/8
42. Grass-Carpet	800-1325	3-5	1/8 to 3/8		3/16-5/16		1/12
43. Grass-Canadian Rye	800-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4
44. Grass-Crested Wheat	800-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4
45. Grass-Dallas	800-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4
46. Grass-English Rye	800-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4

There are some crops such as beans for which it is necessary to use spike tooth cylinder equipment for proper threshing when plants are damp and tough. When crop is very dry, then rubber cylinder bar equipment should be used. Rubber cylinder bars and fillers replace the rasp bars on the cylinder. The above items are available at your Allis-Chalmers Dealer.

 When removing concaves start with rear first. Leave concave on door. There are mounting holes for a sixth concave which can be installed when combining crops which are extremely hard to thresh.

 Slow speed cylinder equipment is available at your Allis-Chalmers Dealer.

* For crops that are light and need very little air install auxiliary doors. They are available at your ALLIS-CHALMERS Dealer.

CYLINDER & SHOE ADJUSTMENT CHART

Kind of Crop	 Cylinder Speed Standard Drive	 Number of Concaves	Concave Clearance	Cleaning Fan *	Inches Chaffer Opening	Sieve Opening	Special Sieve
47. Grass-Gramma	1000-1325	3-5	1/8 to 1/4	MINIMUM RPM - 337 - MAXIMUM RPM - 698 - START AT LOWEST RPM AND INCREASE RPM TO GET BEST SEPARATION	3/16-5/16		5/32 x 3/4
48. Grass-Indian Rice	1325	5	1/8 to 1/4		3/16-5/16	3/16-5/16	None used
49. Grass-Johnson	1000-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4
50. Grass-Orchard	1325	5	1/8 to 3/8		3/16-5/16		1/16 x 3/8
51. Grass-Rhodes	800-1325	3-5	1/8 to 1/4		3/16-5/16		9/64
52. Grass-Sudan	800-1325	3-5	1/8 to 3/8		5/16-1/2		5/32 x 3/4
53. Grass-Sand Drop	1325	3-5	1/8 to 1/4		3/16-5/16		9/64
54. Grass-Western Wheat	1000-1325	3-5	1/8 to 3/8		3/16-5/16		5/32 x 3/4
55. Hegari	1000-1325	1-5	1/8 to 3/8		5/16-1/2		5/32 x 3/4
56. Kaffir	800	1-5	1/8 to 5/8		3/8		5/32 x 3/4
57. Lespedeza	800-1325	1-5	1/8 to 5/8		3/8		9/64
58. Maize	800	1-5	1/8 to 1/2		3/8		5/32 x 3/4
59. Millet	1325	3-5	1/8 to 5/8		3/8		9/64
60. Mustard	1325	2-5	1/8 to 1/2		3/8		9/64
61. Oats	1325	2-5	1/8 to 1/2		1/2	5/16	None used
62. Peas-Alaska	500-850	2-5	1/4 to 1/2		5/16-1/2		3/8
63. Peas-Austrian Field	500-850	3-5	1/4 to 1/2		3/16-1/2		3/8
64. Peas-Chinese Red	265-440	1-5	1/4 to 1/2		5/16-1/2		3/8
65. Peas-Cow	265-440	3-5	1/4 to 1/2		5/16-1/2		3/8
66. Peas-Lady	265-440	1-3	1/4 to 1/2		5/16-1/2	3/16-5/16	None used
67. Peas-Table	265-440	2-5	1/4 to 1/2		5/16-1/2	3/16-5/16	None used
68. Peas-Whipoorwill	315-600	2-5	1/4 to 1/2		5/16-1/2		3/8

There are some crops such as beans for which it is necessary to use spike tooth cylinder equipment for proper threshing when plants are damp and tough. When crop is very dry, then rubber cylinder bar equipment should be used. Rubber cylinder bars and fillers replace the rasp bars on the cylinder. The above items are available at your Allis-Chalmers Dealer.

 When removing concaves start with rear first. Leave concave on door. There are mounting holes for a sixth concave which can be installed when combining crops which are extremely hard to thresh.

 Slow speed cylinder equipment is available at your Allis-Chalmers Dealer.

* For crops that are light and need very little air - install auxiliary doors. They are available at your ALLIS-CHALMERS Dealer.

CYLINDER & SHOE ADJUSTMENT CHART

Kind of Crop	 Cylinder Speed	 Number of Concaves	Concave Clearance	Cleaning Fan *	Inches Chaffer Opening	Sieve Opening	Special Sieve
69. Rape	500-850	3-5	1/8 to 1/2	Minimum RPM - 337 - Maximum RPM - 698 Start at Lowest RPM and Increase RPM To Get Best Separation	5/16	3/16	9/64
70. Rye	800-1325	2-5	1/8 to 1/2		3/16 x 5/16		5/32 x 3/4
71. Red-Top	1325	3-5	1/8 to 1/4		3/8	3/16 x 5/16	24 x 24
72. Sorgo	800-1000	1-5	1/4 to 5/8		3/8	5/16	None used
73. Sunflower	800-1000	1-5	1/8 to 1/2		3/8	5/16	None used
74. Timothy	1325	3-5	1/8 to 3/8		5/16		1/16
75. Vetch	1325	1-5	1/8 to 1/2		3/8		5/32 x 3/4
76. Wheat	1325	2-5	1/8 to 1/2		3/8	5/16	None used

There are some crops such as beans for which it is necessary to use spike tooth cylinder equipment for proper threshing when plants are damp and tough. When crop is very dry, then rubber cylinder bar equipment should be used. Rubber cylinder bars and fillers replace the rasp bars on the cylinder. The above items are available at your Allis-Chalmers Dealer.

 When removing concaves start with rear first. Leave concave on door. There are mounting holes for a sixth concave which can be installed when combining crops which are extremely hard to thresh.

 Slow speed cylinder equipment is available at your Allis-Chalmers Dealer.

* For crops that are light and need very little air install auxiliary doors. They are available at your ALLIS-CHALMERS Dealer.

SPECIAL CROP INFORMATION

(1) ALFALFA

This crop should as a rule, be cut and placed in a windrow of sufficient size for the Harvester to handle without overload. After it has dried out thoroughly, the pick-up attachment is then used to deliver the hay onto the canvas draper.

However, with the hay and seed in the proper condition and free of weeds, this crop can be handled very successfully by direct harvesting.*

(2) BARLEY - MALTING & FEED

This crop can, as a rule, be handled by direct harvesting except in certain localities where the grain ripens uneven or where the crop is infested with weeds, in which case the crop should be windrowed and the pick-up attachment used after the grain and weeds have dried out thoroughly.

Barley that is to be used for malting purposes must be harvested more carefully than feed barley. The grain, whether harvested direct or from a windrow, must be dry. There is usually a valuable premium paid for malting barley over feed barley which well justified the extra time and effort in setting the machine. There must be very few, if any, cracked or skinned kernels, 5% or less, therefore, it must be harvested more gently than feed barley. It is better to have some beard on the kernels of some chaff and a few unthreshed particles of heads in the bin than skinned or damaged kernels.

When threshing barley for malting, reduce cylinder speed to where it will just thresh grain out of heads and increase concave clearance as much as possible. The adjustable chaffer and adjustable sieve should be set for least possible tailings return. Brush chaff and beards from chaffer and sieve occasionally to keep from plugging. Set adjustable chaffer about 2/3 open for normal operation. Too far open will overload adjustable sieve and tailings elevator, too far closed will cause grain loss over shoe. Set adjustable sieve about 1/2 open for normal operation, opening further will reduce tailings return but will permit more chaff to enter grain bin, closing sieve too far will get cleaner grain in bin but will overload tailings return which tends to skin and bruise kernels. Never use finishing sieve in malting barley.*

Keep all chains properly adjusted to prevent them from flopping and cracking grain.

(3) BEANS - FABA OR HORSE*

*See Chart for recommended No. of concaves, setting of cylinder speed, clearance, adjustable chaffer and sieve, and size of sieve if used.

(4) BEANS - BOUNTIFUL

The beans are, as a rule, very easily shelled.*

(5) BEANS - BLACK EYE

These beans are very easily cracked making it necessary to use a slow cylinder speed, rubber cylinder bars, and concaves. Dirt removal equipment is recommended.*

(6) BEAN - BABY LIMA

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(7) BEANS - CLAY BANK

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(8) BEANS - CRANBERRY

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(9) BEANS - EBONY

These beans are, as a rule, very easily shelled, therefore a low cylinder speed should be used.*

(10) BEANS - GREAT NORTHERN

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(11) BEANS - GARBANZA*

(12) BEANS - ITALIAN

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

SPECIAL CROP INFORMATION (Cont'd)

(13) BEANS - KENTUCKY WONDER

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(14) BEANS - KIDNEY

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(15) BEANS - MUNG

This crop is, as a rule, handled by straight harvesting.*

(16) BEANS - NAVY

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(17) BEANS - PINTO

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(18) BEANS - RED MEXICAN

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(19) BEANS - SOY

There are many varieties and sizes of soy beans, but the harvesting of this crop is not difficult. They are usually very easily shelled from the pod but care should be exercised in the selection of the proper speed of the cylinder and the concave clearance to shell properly with a minimum of creakage.

If beans are smaller than average use a 5/16" finishing sieve and if they are larger than average use a 7/16" finishing sieve.*

(20) BEANS - VELVET

These beans are, as a rule, cut and dried before threshing.*

(21) BUCKWHEAT *

(22) CLOVER - ALSIKE

This crop can be handled very successfully by direct harvesting unless infested with a heavy weed growth. In this case, the crop should be windrowed and the pick-up attachment used after the hay and weeds have thoroughly dried out.

Due to the juicy condition of the crop when direct harvesting, the cylinder bars may become built up to a point that will disturb the cylinder balance. Therefore, the cylinder bars should be cleaned if built up to a point where the cylinder vibrates.*

(23) CLOVER - BIRDSFOOT TREFOIL

This crop can be cut and put in a windrow of sufficient size for the harvester to handle without overload or can be direct harvested.*

(24) CLOVER - CRIMSON

This crop is usually harvested direct. Due to the juicy condition of the hay it will be necessary to clean cylinder bars when they become built up to the point where the cylinder vibrates.*

(25) CLOVER - DUTCH

The important thing in the harvesting of this crop is to have the hay dry and in condition where the seed will hull. It should be windrowed and the pick-up attachment used.*

(26) CLOVER - GIANT ENGLISH

The important thing in the harvesting of this crop is to have the hay dry and in condition where the seed will hull. It should be windrowed and the pick-up attachment used.*

(27) CLOVER - HOP

This crop should as a rule, be cut and placed in a windrow and the pick-up attachment used. It can, however, be direct harvested, if not infested with too great weed growth.*

(28) CLOVER - HUBAN

This crop is sometimes handled by direct harvesting using the high lift header attachment if the crop is very rank. It can also be cut, dried, and then placed in bunches and threshed as a stationary job.*

*See Chart for recommended No. of concaves, setting of cylinder speed, clearance, adjustable chaffer and sieve, and size of sieve if used.

SPECIAL CROP INFORMATION (Cont'd)

(29) CLOVER - LADINO

The important thing in the harvesting of this crop is to have the hay dry and in condition where the seed will hull. It should be windrowed and the pick-up attachment used.*

(30) CLOVER - RED

The important thing in the harvesting of this crop is to have the hay dry and in condition where the seed will hull. It should be windrowed and the pick-up attachment used.*

(31) CLOVER - SWEET

This crop is very easily shelled but due to the heavy growth, much material has to be handled.*

(32) CLOVER - WHITE

This crop can be handled very successfully by direct harvesting unless infested with a heavy weed growth. In this case, the crop should be windrowed and the pick-up attachment used after the hay and weeds have thoroughly dried out.

Due to the juicy condition of the crop when direct harvesting, the cylinder bars may become built up to a point that will disturb the cylinder balance. Therefore, the cylinder bars should be cleaned if built up to a point where the cylinder vibrates.*

(33) FESCUE - CREEPING

This crop is usually harvested direct, except in localities where ripening is uneven or when the crop is infested with a heavy weed growth. In these conditions the crop should be in windrows of a size that can be handled by the Harvester without overload.*

(34) FLAX

For best results in harvesting this crop the flax attachment should be used.*

(35) FUZZY - CHEAT

This crop is usually handled by direct harvesting.*

(36) GRASS - BENT

This crop is handled by direct harvesting.*

(37) GRASS - BLUE OR JUNE

When this crop is ready to harvest, the stems that carry the seeds stand above the green grass

which is part of the crop used for hay. The seeds can be taken from the hay by cutting high or the complete plant can be put through the machine by cutting low. This will remove the seed and leave the hay in a windrow to be picked up after curing.*

(38) GRASS - BIG BLUE STEM

This crop is usually handled by direct harvesting.*

(39) GRASS - BROME

This crop is very light but not difficult to handle by direct harvesting.*

(40) GRASS - BERMUDA

This crop is usually handled by direct harvesting.*

(41) GRASS - CANARY

This crop is usually handled by direct harvesting.*

(42) GRASS - CARPET

This grass, is as a rule, very rough and the sickle sections and ledger plates should be in good shape.*

(43) GRASS - CANADIAN RYE

The sickle sections and guard ledger plates should be in good shape to handle this crop.*

(44) GRASS - CRESTED WHEAT

This crop is easily handled by direct harvesting.*

(45) GRASS - DALLAS

This crop is handled by direct harvesting. The seeds are very light and ripen unevenly.*

(46) GRASS - ENGLISH RYE

The sickle sections and guard ledger plates should be in good shape to handle this crop.*

(47) GRASS - GRAMMA

This crop is handled by direct harvesting.*

(48) GRASS - INDIAN RICE

This crop has to be harvested when on the green side, as when very ripe the seed shatters easily.*

*See Chart for recommended No. of concaves, setting of cylinder speed, clearance, adjustable chaffer and sieve, and size of sieve if used.

SPECIAL CROP INFORMATION (Cont'd)

(49) GRASS - JOHNSON

This crop can be handled either by direct harvesting or windrowed and the pick-up attachment used.*

(50) GRASS - ORCHARD

This crop is very easily handled by direct harvesting.*

(51) GRASS - RHODES

This is extremely light seed and is handled by direct harvesting.*

(52) GRASS - SUDAN

This crop can be handled either by direct harvesting or windrowed and the pick-up attachment used.*

(53) GRASS - SAND DROP

This crop is handled by direct harvesting if ripe and free from weeds.*

(54) GRASS - WESTERN WHEAT

This crop is easily handled by direct harvesting.*

(55) HEGARI

This crop is handled by direct harvesting.*

(56) KAFFIR

This crop is handled by direct harvesting.*

(57) LESPEDEZA

This crop can be handled very successfully by direct harvesting. If the crop is very weedy, set the cylinder speed to the highest, given on the speed and adjustment chart.*

(58) MAIZE

This crop is handled by direct harvesting.*

(59) MILLET - COMMON

This crop is usually direct harvested, except in localities where ripening is uneven or when the crop is infested with a heavy weed growth. In these conditions the crop should be placed in windrows of a size that can be handled by the harvester without over load.*

(60) MUSTARD

This crop is handled by direct harvesting. If the crop is extremely heavy, the high range of cylinder speed should be used and the cylinder raised to its highest point.*

(61) OATS

This crop can be handled by direct harvesting unless infested with a heavy weed growth. In this case the crop should be windrowed and the pick-up attachment used after the grain and weeds have thoroughly dried out.*

(62) PEAS - ALASKA

This crop shells very easily as a rule. Rubber cylinder bar and concave is recommended.*

(63) PEAS - AUSTRIAN FIELD

This crop should be windrowed of a size which the Harvester can handle without over load. The pick-up attachment is then used to pick up the windrow.*

(64) PEAS - CHINESE RED

This crop should be placed in small windrows for curing. After the windrows have dried out thoroughly, the pick-up attachment is used to pick up the windrows. Dirt removal equipment is recommended.*

(65) PEAS - COW*

(66) PEAS - LADY*

(67) PEAS - TABLE

Set the cylinder to the lowest speed given on the chart.*

(68) PEAS - WHIPOORWILL

This crop is, as a rule, very easily cracked and the low speed of 450 R.P.M. should be used on the cylinder. If a lower speed is necessary, reduce the P.T.O. speed from the normal of 535 slightly.*

(69) RAPE*

*See Chart for recommended No. of concaves, setting of cylinder speed, clearance, adjustable chaffer and sieve, and size of sieve if used.

SPECIAL CROP INFORMATION (Cont'd)

(70) RYE

This crop is usually direct harvested, except in localities where ripening is uneven or when the crop is infested with a heavy weed growth. In these conditions the crop should be in windrows of a size that can be handled by the Harvester without over load.*

(71) RED - TOP

This crop is handled by direct harvesting.*

(72) SORGO

This crop is handled by direct harvesting.*

(73) SUNFLOWER

This crop can be harvested direct, if seed is dry.*

(74) TIMOTHY

This crop is handled by direct harvesting and should be thoroughly ripe.*

(75) VETCH

This crop is usually direct harvested, except in localities where ripening is uneven or when the crop is infested with a heavy weed growth. In these conditions the crop should be in windrows of a size that can be handled by the Harvester without over load.*

(76) WHEAT

This crop is usually direct harvested, except in localities where ripening is uneven or when the crop is infested with a heavy weed growth. In these conditions the crop should be in windrows of a size that can be handled by the Harvester without over load.*

*See Chart for recommended No. of concaves, setting of cylinder speed, clearance, adjustable chaffer and sieve, and size of sieve if used.

NOTE: Settings for Corn Harvesting are in Manual furnished with Corn Head.

OPERATION AIDS

CONDITION	POSSIBLE CAUSE	CORRECTION	REFERENCE PAGE, NO.
Poor Cutting	Improper sickle register	Adjust	30
	Dull or missing sickle sections	Replace	29
	Bent guards	Replace	29
	Sickle not contacting guards	Adjust	29
	Hold down clips worn	Replace	29
	Wear plates worn or not adjusted	Adjust or replace	29
	Too fast ground travel	Slow down	
	Header running too high or too low	Correct header height	78
Uneven Feed to Header	Reel too high	Lower reel	27
	Reel set too far forward	Set reel back	27
	Cutting too high	Lower header	78
	Reel speed too slow	Increase reel speed	78
Reel Shattering Grain Heads	Reel too high	Lower reel	78
	Reel speed too fast	Slow reel speed	78
	Reel speed too slow	Increase RPM	78
Sickle Stripping		Adjust	29
Straw Bunching on Cutter Bar	Reel too high	Lower reel	78
	Reel too far forward	Set reel back	27
	Auger too high	Lower auger	31
	Auger flights worn	Replace	31
	Auger fingers retracting too early	Adjust	31
Straw Wrapping on Header Auger	Auger too high or too low	Adjust	31
	Fingers not retracting early enough	Adjust	31
	Uneven feed to auger	Adjust reel	78
	Fingers retracting too early or late	Adjust	31
Header Auger Plugging	Auger too high or too low	Adjust	31
	Auger drive belt slipping	Adjust	
Feeder Beater Wrapping or Plugging	Fingers retracting too late	Adjust	27
	Uneven feed	Adjust	27
Cylinder Cracking Seed	Cylinder speed too high	Lower cylinder speed	42
	Too many concaves	Remove one or more concaves	36
	Cylinder not level	Adjust	36
	Excessive tailing	Close chaffer	51
	Crop may require rubber cylinder bars and concaves	See your Dealer	40

OPERATION AIDS

CONDITION	POSSIBLE CAUSE	CORRECTION	REFERENCE PAGE NO.
Cylinder Not Shelling Completely	Cylinder clearance too great	Lower cylinder	34
	Cylinder speed too slow	Increase speed	42
	Concave worn	Replace	38
	Cylinder bars worn	Turn cylinder or replace	36
	Not enough material entering cylinder	Increase ground speed	
	Crop not ready for threshing		
Cylinder Vibration	Chaff stuck to inside of bars	Clean out	
Thresher Beater Wrapping	Cylinder too high	Lower cylinder	36
	Beater speed too slow	Install 25T drive sprocket	34
	Beater loose on shaft	Tighten clamp bolts	34
	Crop not in condition to thresh		
	Clutch slipping	Jaws worn, spring weak	
Raddle Not Delivering	Raddle too loose	Tighten	43
	Slats broken	Replace	43
	Clutch slipping	Replace jaws	
	Slats worn	Replace	43
Seed Loss From Walkers	Separator belt slipping	Adjust	48
	Incorrect engine RPM	Adjust	21
	Walkers plugged	Cleanout - Lower cylinder - Cleanout machinery before decreasing engine speed	
	Excessive Ground speed	Reduce speed	
	Walkers overloaded	Set walkers back if possible	51
	Excessive tailings	Close chaffer down	51
Seed Loss From Shoe	Chaffer opening too little		51
	Shoe over loaded	Back feeding and grinding a cylinder. Excessive ground speed	
	Separator belt slipping	Adjust	48
	Not enough air	Increase RPM	79
	Too much air	Decrease RPM	79
	Incorrect engine RPM	Adjust	21
Light Chaff In Grain Bin	Not enough air	Increase amount of air	79
	Sieve location incorrect	Raise front of sieve	51
Green Weeds or Straw in Bin	Adjustable chaffer & sieve open too far	Decrease openings, if seed is then blown out decrease air, if seed rides over with chaff and green material, lower rear of chaffer	51
	Straw being drawn in at fan opening	Shield opening	
Sieves Plugging with Straw and Chaff	Not enough air	Increase air	79
	Chaffer open too far	Close down chaffer	51
	Rear of chaffer too high	Lower rear of chaffer	51
	Walkers not spaced correctly	Adjust for equal spacing of walker - Keep outer walkers close to separator sides	
Excessive Tailings	Sieve not open far enough	Increase sieve opening	51
	Chaffer open too far	Close down chaffer	51
	Too little air	Increase Air	79
	Straw broken up too much	Slow cylinder. Remove concaves. Raise cylinder	40,42

STORING MACHINE

The GLEANER Combine represents a sizable capital investment and should be treated as such. Therefore, certain steps should be taken to preserve these units, protect that investment.

1. Machines should be stored in a building or at least under cover.

2. Boards should be placed under tires if machine is stored on dirt or moist floors. Tires should be inflated to proper air pressure. Place boards under header and put header in lowered position.

3. All bearings with lubrication fittings should have enough lubricant forced into them to seal them from dirt and moisture.

4. All chains should have oil or rust preventive applied with a brush. Linkage points that do not have lubrication fittings should be oiled with engine oil.

5. The interior of the engine should be coated with oil. To do this, start engine. Run traction drive to full low range to protect sleeve from corrosion. Then using an oil can, pump oil into the engine intake until engine stops and replace pipe plug.

6. Seal air intake and exhaust outlet to prevent water from entering.

7. Drain radiator and cylinder block to prevent freezing. Remove battery, keep fully charged and store in dry place. Place warning tag in conspicuous place, stating "RADIATOR DRAINED".

8. Belts and seat cushion should be removed and stored in dry place.

9. Open elevator boot cover to allow any moisture to drain. See that all other inspection covers are closed.

10. Check for excessive wear of cylinder bars and concaves - replace if necessary. At the end of each seasons work, the machine should be thoroughly cleaned to prevent dirt from collecting moisture and rusting or rotting material. The machine should be inspected for worn parts that should be replaced before starting another seasons work. These parts should be ordered from the "Allis-Chalmers" dealer immediately and installed on the machine to avoid any possibility of delay in next seasons harvest. Where paint has been rubbed off it should be painted to prevent rust.

11. If storing for season protect slip clutch jaws with grease.

PREPARATION FOR COMBINING

1. Clean combine inside and out.

2. Drain and refill crankcase - replace oil filter.

3. Check air cleaner for cleanliness.

4. Check lube level in transmission, reduction gear case and differential.

5. Clean fuel strainer.

6. Flush radiator and engine. Fill with proper coolant.

7. Remove spark plugs - clean and gap.

8. Check ignition wiring and distributor points.

9. Check slip clutches for proper action.

10. Check condition of chains and belts - install and set to proper tension.

11. Set tire pressure - Steering tires - See pressures in Setting Up Directions.

Drive Tires - See pressures in Setting Up Directions.

12. Check for loose bolts.

13. Run combine to check operation.

14. After combine has operated for 15 minutes, shut off engine and check for signs of overheating.

SETTING UP INSTRUCTIONS

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SETTING UP INSTRUCTIONS

When setting up harvester use bolt just long enough to extend through nut and do not tighten, unless specified, until all bolts have been installed in the assembly. Use lockwasher under all nuts unless lockwasher is under bolt head or when other type locking device is used. Use flat washer for support when a slotted hole or wood is next to the lockwasher or head of bolt.

The L.H. and R.H. side of harvester is determined by facing the direction of forward travel. The combine serial number is located at the rear of machines L.H. side. Header serial number plate is attached to rear L.H. side of the header.

WARNING - Before attempting to start harvester, check radiator for proper coolant. Check oil in crankcase, hydraulic reservoir, differential, transmission, reduction gear case and planetary drive.

Before driving combine set tire pressure as indicated below:

TIRE PRESSURE

STEERING TIRES -

Size	Code	Ply	P.S.I.
6:00 x 16	I-1	4	32
7:50 x 16	I-1	4	24
7:50 x 16	I-3	4	30

DRIVE TIRES -

14.9/13 x 26	R-1	6	22
16.9/14 x 26	R-1	6	20
16.9/14 x 26	R-3	6	20
14.9/13 x 26	R-2-0	8	28
18.4/15 x 26	R-1	6	20

NOTE: Ignition key is wired to steering post. Combine has conventional automotive shift.

TO ATTACH HEADER TO BASE MACHINE Figs. 1, 2 & 3

Block up header about 8" on level ground or place header on cradle constructed to dimensions shown in illustration. Check wedge pin location

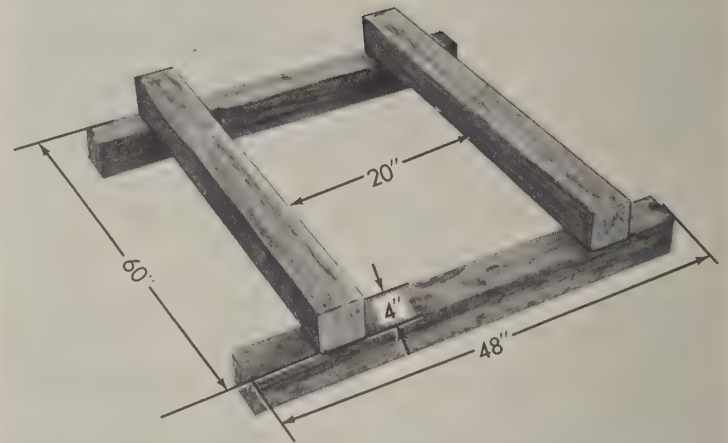


FIG. 1

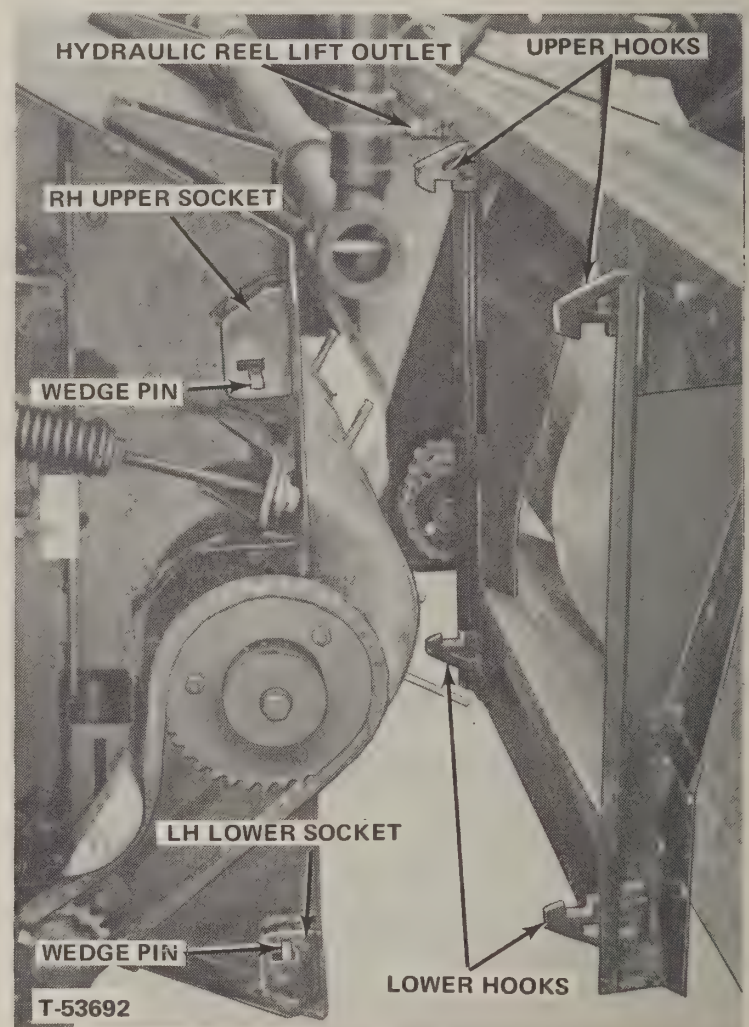


FIG. 2

in cylinder housing and header sockets before attaching. Pins should be in narrowest part of cut out in socket. Drive base machine to back of header aligning sockets on cylinder housing with hooks in top of header. Raise or lower cylinder housing so front is parallel with back of header. Drive combine forward until hooks on

SETTING UP INSTRUCTIONS (Cont'd)

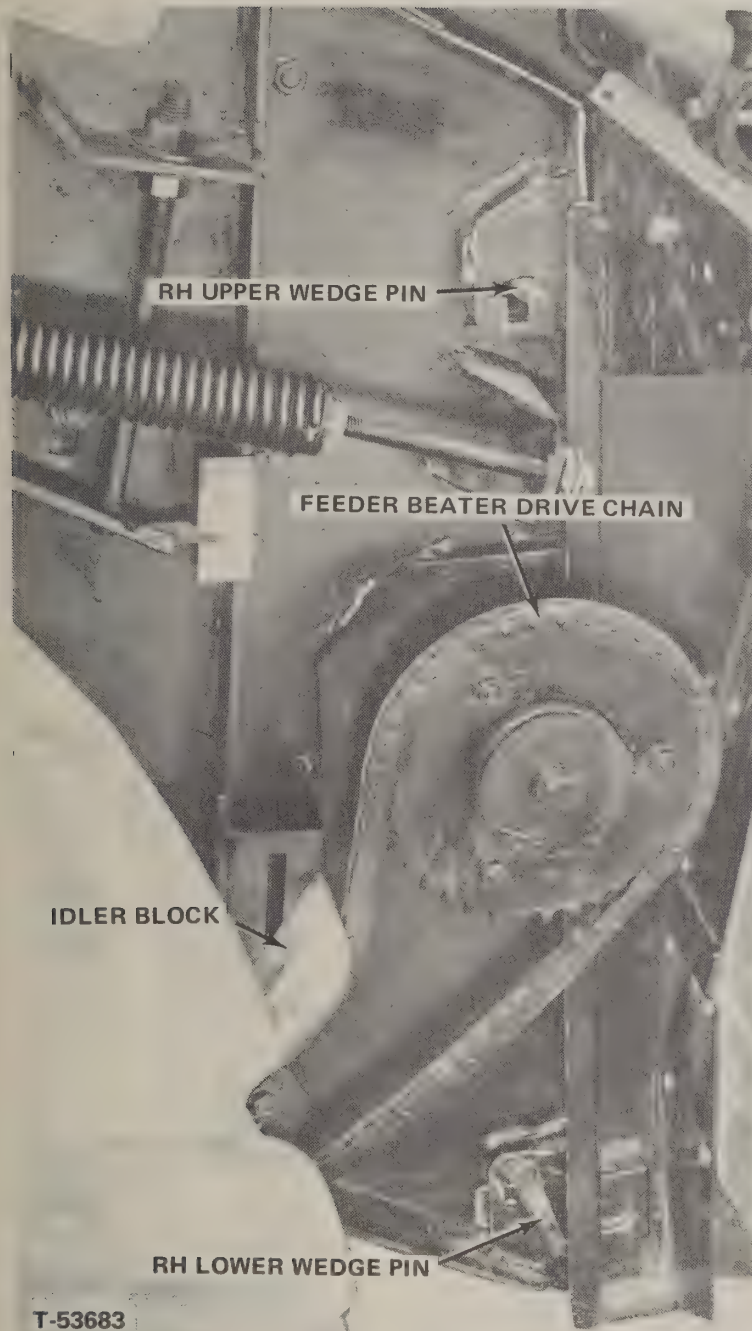


FIG. 3

the header enter sockets. To fasten header push upper wedge pins in, then up and release. Raise header. Push lower wedge pins in and down and release. Make sure wedges are seated in notches of header hooks. Connect reel lift hydraulic line. Fasten line under spring loaded clamp.

TO LEVEL CYLINDER - Fig. 4A

It is advisable to periodically check levelness of cylinder and accuracy of cylinder clearance gauges. Loosen R. H. and L. H. bearing support attaching bolts. Relieve tension of drive chains. Lower cylinder evenly until high spot of cylinder bar contacts high spot of No. 2 concave. Set gauges at zero. Raise cylinder to desired clearance. Tighten support bolts and set chain tension.

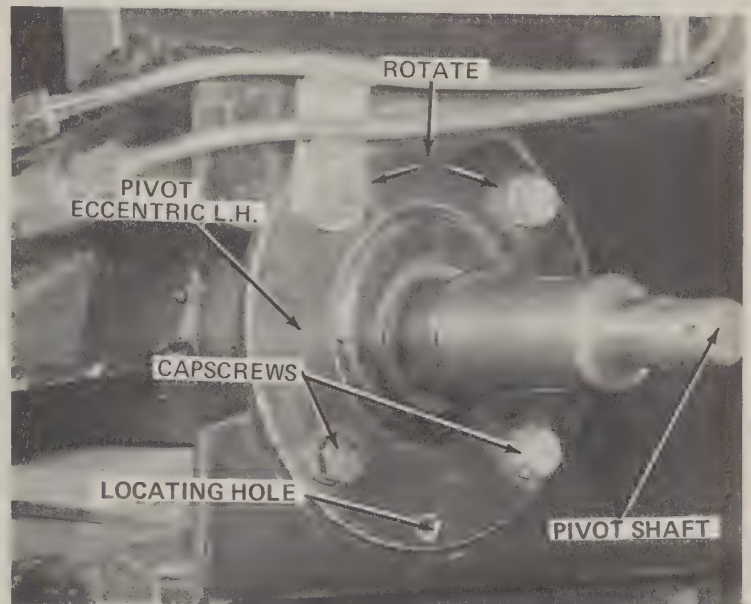


FIG. 4

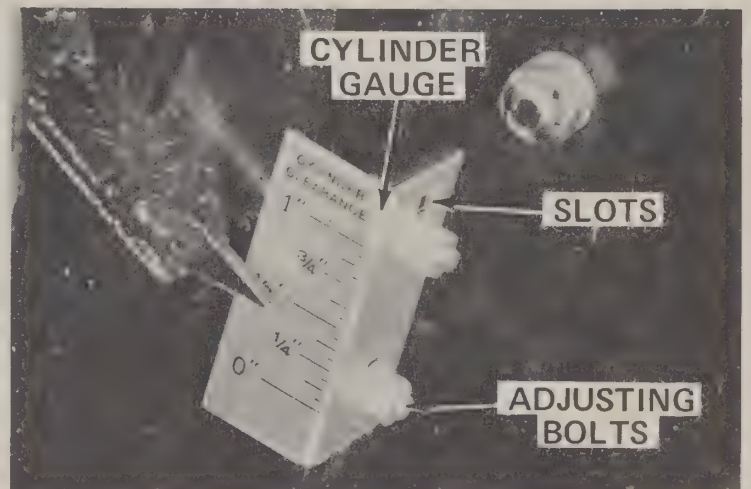


FIG. 4A

FEEDER BEATER DRIVE CHAIN - Fig. 3

Install the feeder beater drive chain. Adjust idler block to remove slack from chain.

Fig. 4

The header pivot shaft is properly adjusted to secure levelness of header before machine leaves factory. If header does not appear level first make sure that this is not caused by unequal tire pressure or combine resting on uneven ground. To determine if header is level raise header high enough so bottom of header can be sighted in relation to axle. If bottom of header is not in line with axle then correct by using the following procedure.

Remove capscrews which hold L. H. and R. H. pivot eccentrics. Turn one or both as needed to level header. Pivot shaft is in high position when small hole in eccentric is at top.

To adjust R. H. side, it will be necessary to remove pivot sheaves for access.

SETTING UP INSTRUCTIONS (Cont'd)

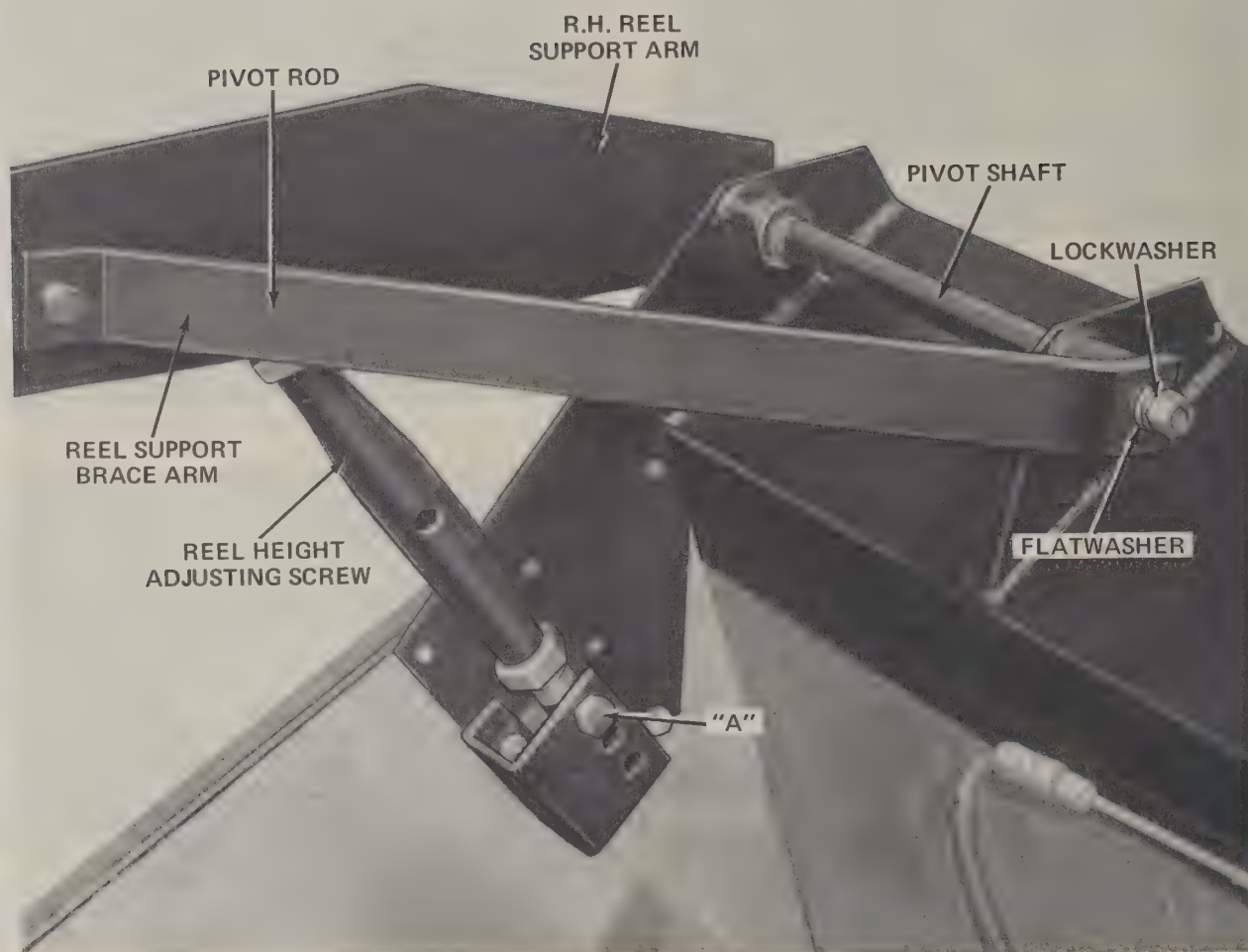


FIG. 5

REEL SUPPORT ARM R.H. - Fig. 5

Attach reel height adjusting screw to bracket with bolt at "A".

Slide reel support arm brace pivot rod through eye at upper end of the reel height adjusting screw. At same time place rear of reel support arm brace on pivot shaft. Fasten brace to pivot shaft with flatwasher, lockwasher and nut.

Place spacer on pivot rod. Install R.H. reel support arm on pivot shaft and pivot rod. Use flatwasher, lockwasher and nut on pivot shaft. Use locknut on pivot rod.

Fasten reel support arm brace to R.H. reel support arm.

HARVESTER DRIVE CHAIN - Fig. 6

Install harvester drive chain on sprocket at R.H. end of harvester drive shaft and adjust idler.



FIG. 6

SETTING UP INSTRUCTIONS (Cont'd)

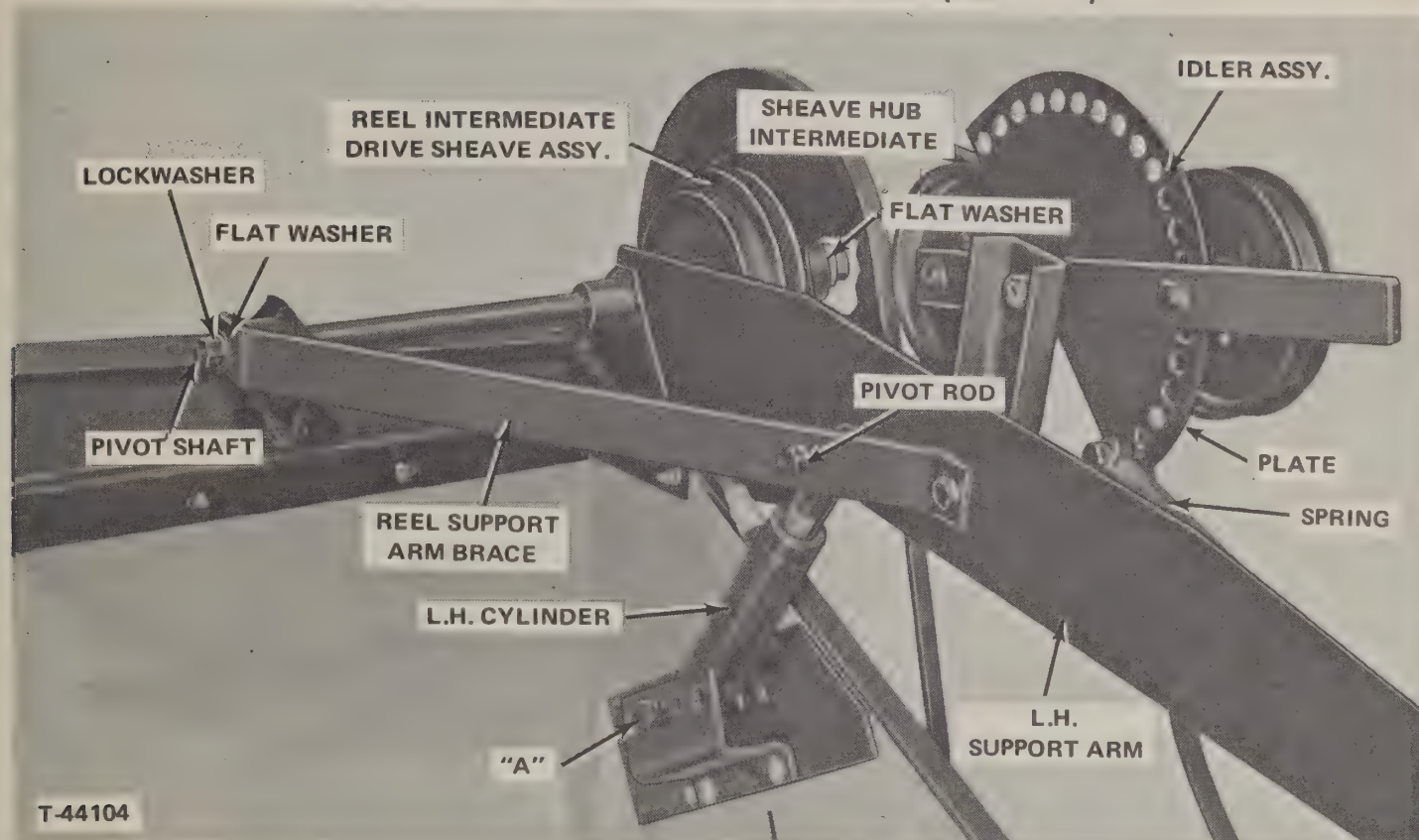


FIG. 7

REEL SUPPORT ARM L.H. & REEL INTER-MEDIATE DRIVE SHEAVE ASSEMBLY - Fig. 7

Attach reel height adjusting screw to bracket with bolt at "A".

Slide reel support arm brace pivot rod through eye at upper end of the reel height adjusting screw. At same time place rear of reel support arm brace on pivot shaft. Fasten brace to pivot shaft with flatwasher, lockwasher and nut.

Place spacer on pivot rod. Install L.H. reel support arm on pivot shaft and pivot rod. Place thrust washer on pivot shaft. Install reel intermediate drive sheave assembly on pivot shaft. Install thrust washer on pivot shaft, followed by flatwasher, lockwasher and nut. Install lock-nut on pivot rod.

Fasten reel support arm brace to L.H. support arm brace. Bolt idler assembly to L.H. reel support arm and install spring.

SETTING UP INSTRUCTIONS (Cont'd)

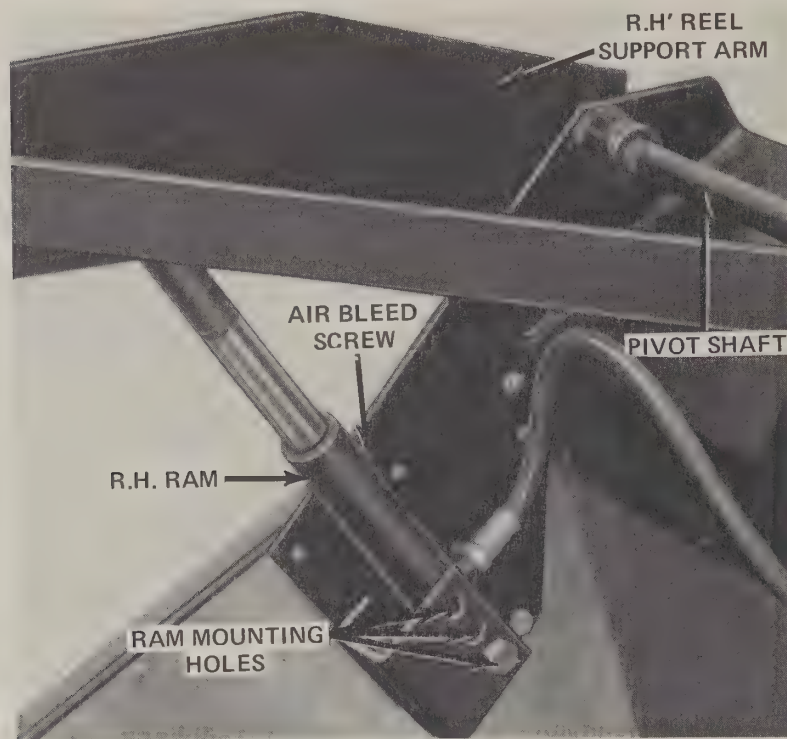


FIG. 8

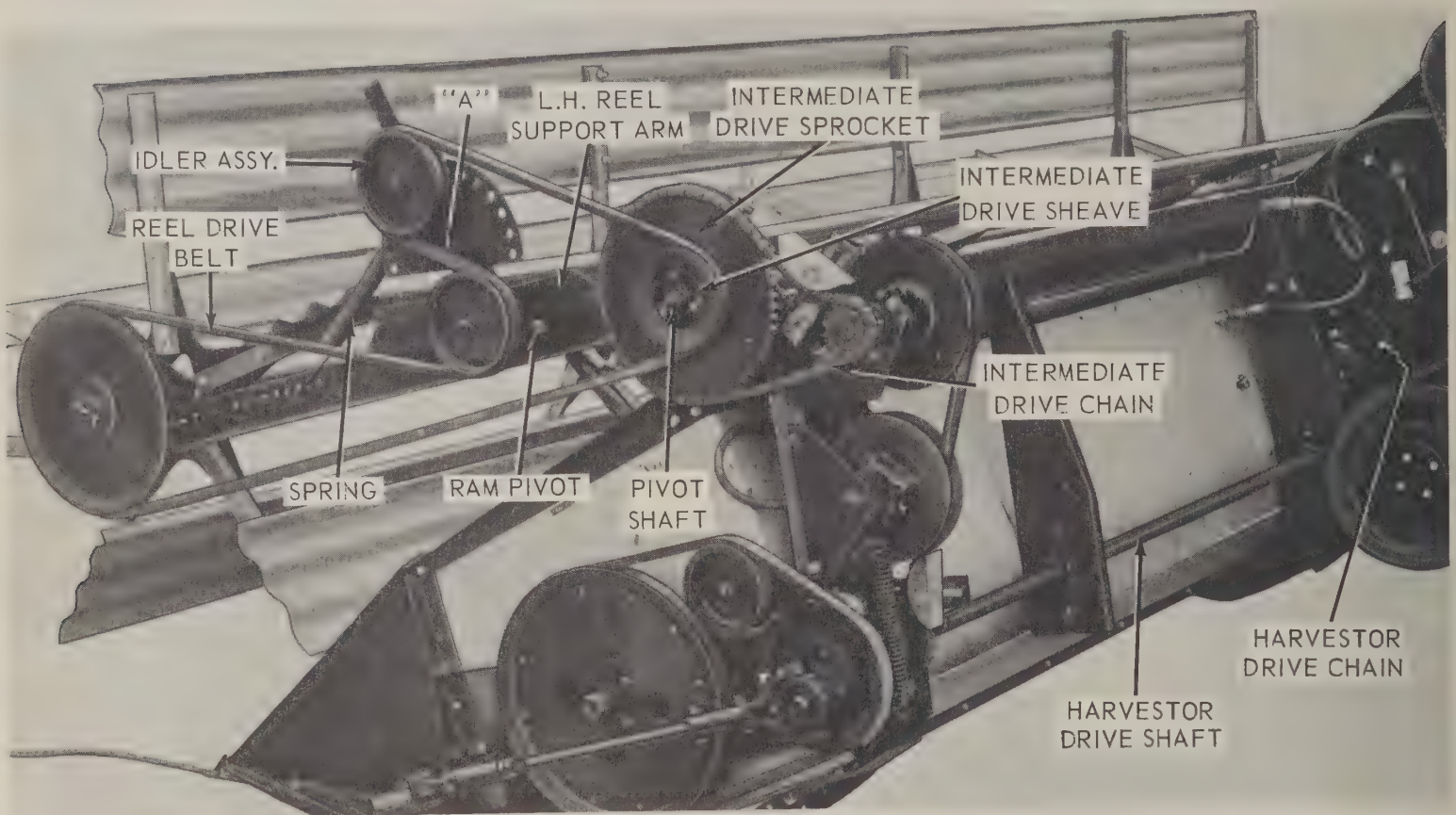


FIG. 9

REEL ARM INSTALLATIONS WITH HYDRAULIC LIFT (Optional Equipment)

REEL SUPPORT ARM R.H. - Fig. 8

Slide ram pivot of reel support arm brace through eye in ram piston. At same time place rear of brace on pivot shaft. Fasten brace to pivot shaft

with flatwasher, lockwasher and nut. Put spacer on ram pivot. Place reel support arm on pivot shaft and ram pivot. Fasten R.H. reel support arm to pivot shaft with flatwasher, lockwasher and nut. Attach ram pivot to arm with locknut. Bolt front of reel arm support brace to R.H. reel support arm.

SETTING UP INSTRUCTIONS (Cont'd)

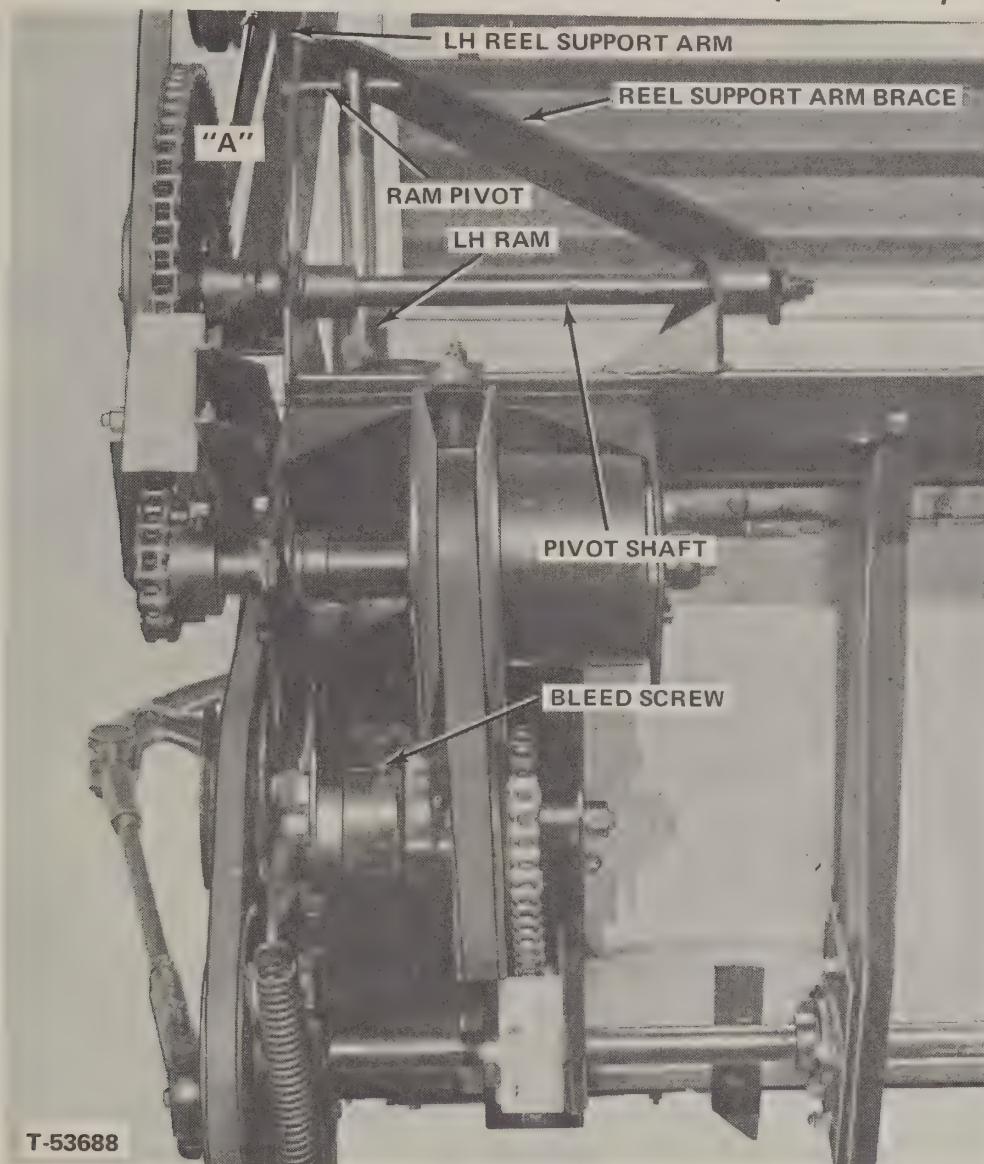


FIG. 10

REEL SUPPORT ARM L.H. & REEL INTER-MEDIATE DRIVE SHEAVE ASSEMBLY Figs. 9 & 10

Fasten the reel support arm brace to the R.H. end of pivot shaft and at the same time place ram pivot through eye of L.H. ram. Use a flatwasher, lockwasher and nut to fasten reel support arm brace to pivot shaft.

Place L.H. reel support arm on pivot shaft and ram pivot. Install a lockwasher and nut on the ram pivot to hold the L.H. reel support arm in place.

Bolt the intermediate drive sheave to the intermediate drive sprocket. Place this assembly on the pivot shaft, using a thrust washer on each side of sheave and sprocket assembly. Install nut and lockwasher on end of pivot shaft.

Install the intermediate drive chain and adjust the idler block.

Bolt the idler assembly to the vertical member of the L.H. reel support arm at "A". Use bushing on bolt "A" in the L.H. reel support arm. Install the reel drive belt and idler spring. Adjust tension of spring to carry a normal reel load.

SETTING UP INSTRUCTIONS (Cont'd)



FIG. 11

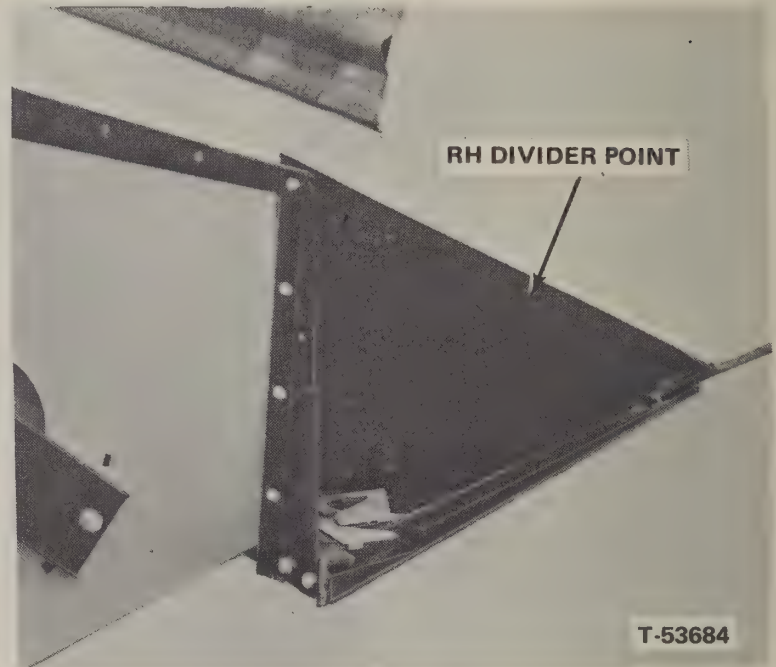


FIG. 12

DIVIDER POINTS (Figs. 11 & 12)

Attach L.H. divider point to header with two $3/8$ " bolts at pan end reinforcement and four $1/2$ " stove bolts to divider post. Attach the R.H. divider to pan end reinforcement with two $3/8$ " bolts and to divider post with four $1/4$ " stove bolts. Insert extension into the divider point and install pin. Fasten link to extension with $3/8$ " x 1" carriage bolt. Place flat washer on outside, under the nut.

SETTING UP INSTRUCTIONS (Cont'd)

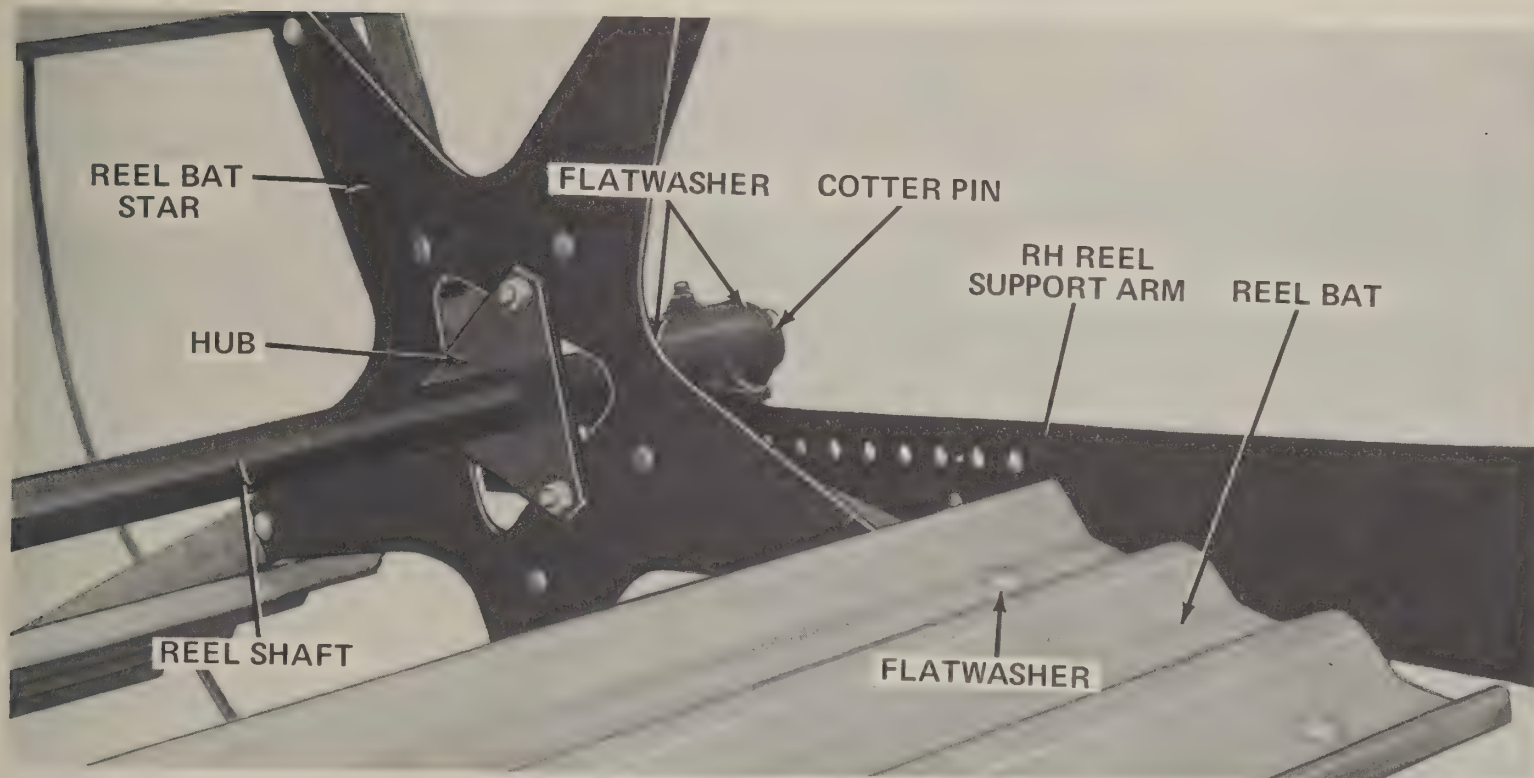


FIG. 13

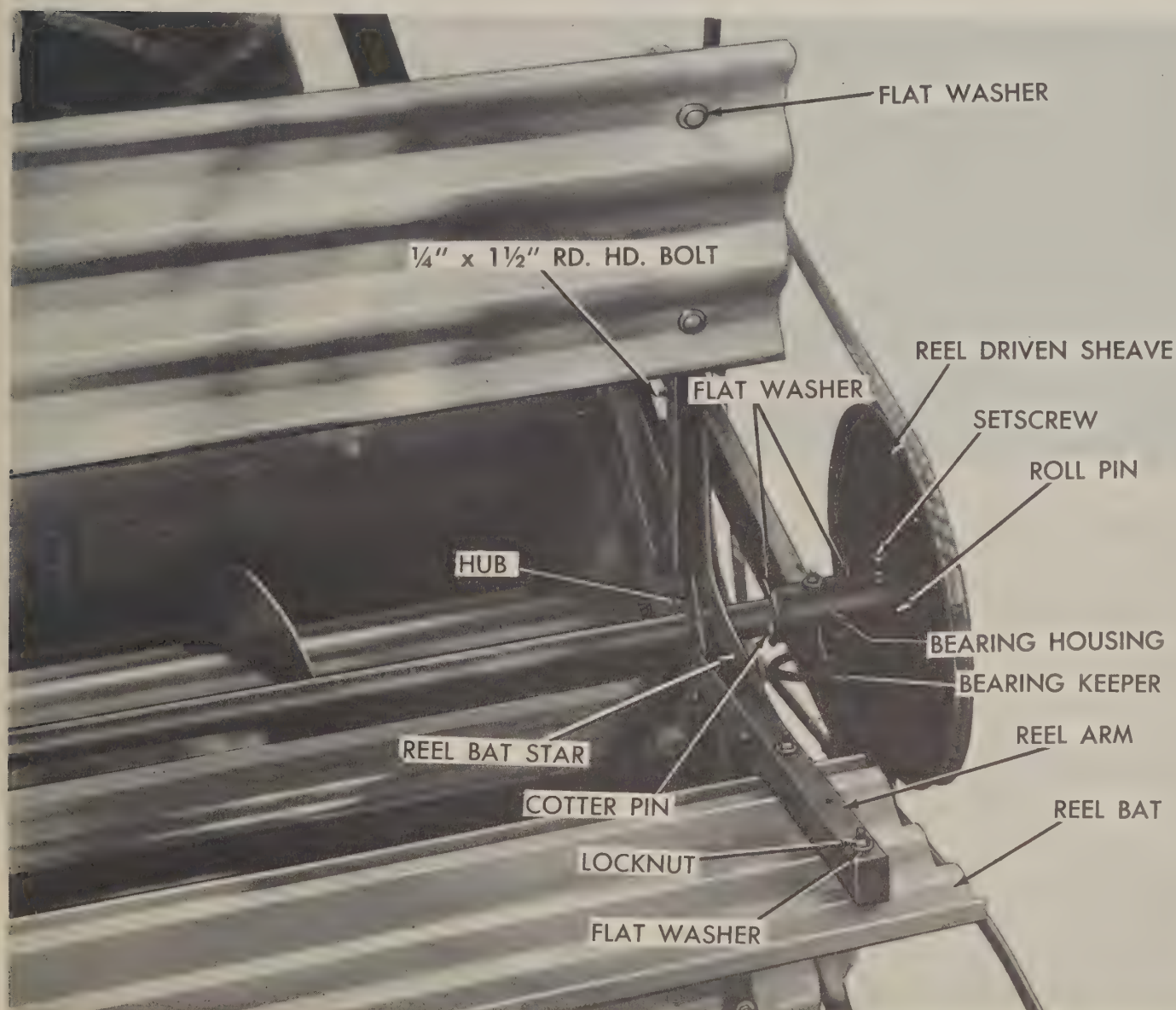


FIG. 14

SETTING UP INSTRUCTIONS (Cont'd)

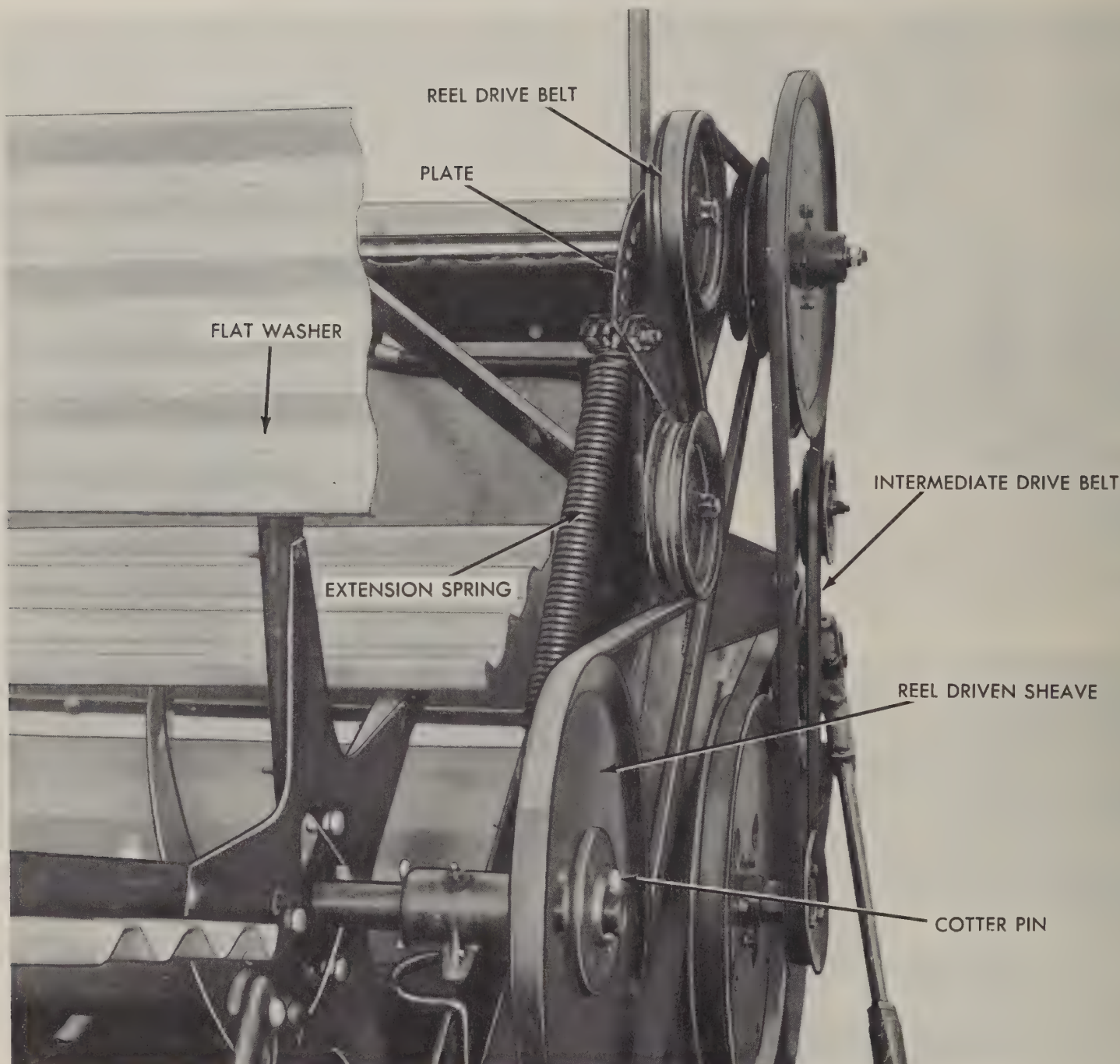


FIG. 15

STANDARD REEL - Figs. 13 & 14

Fasten reel bat stars to the L.H. side of reel arm hubs. Have arms to R.H. side of stars. (L.H. end of reel tube has 3 holes). On R.H. end of reel shaft install cotter pin in inner hole then place flatwasher, bearing housing followed by another flatwasher on shaft. Fasten this in place with a cotter pin in outer hole. On L.H. end of shaft put cotter pin in inner hole, slide flatwasher, bearing housing and flatwasher on shaft.

Fasten reel driven sheave to shaft with roll pin and setscrew. Install cotter pin in outer hole

in shaft. Place this assembly on reel support arms and fasten bearing housing to arms with bearing keepers.

Bolt bats to reel support arms. Use flatwasher under head of bolt and under lock nut.

REEL AND INTERMEDIATE DRIVE BELTS

Fig. 15

Hook extension spring in reel support arm and around $1/2'' \times 1-3/4''$ capscrew fastened in hole in plate. To install belt pull back on idler assembly arm for slack. Install intermediate drive belt.

SETTING UP INSTRUCTIONS (Cont'd)

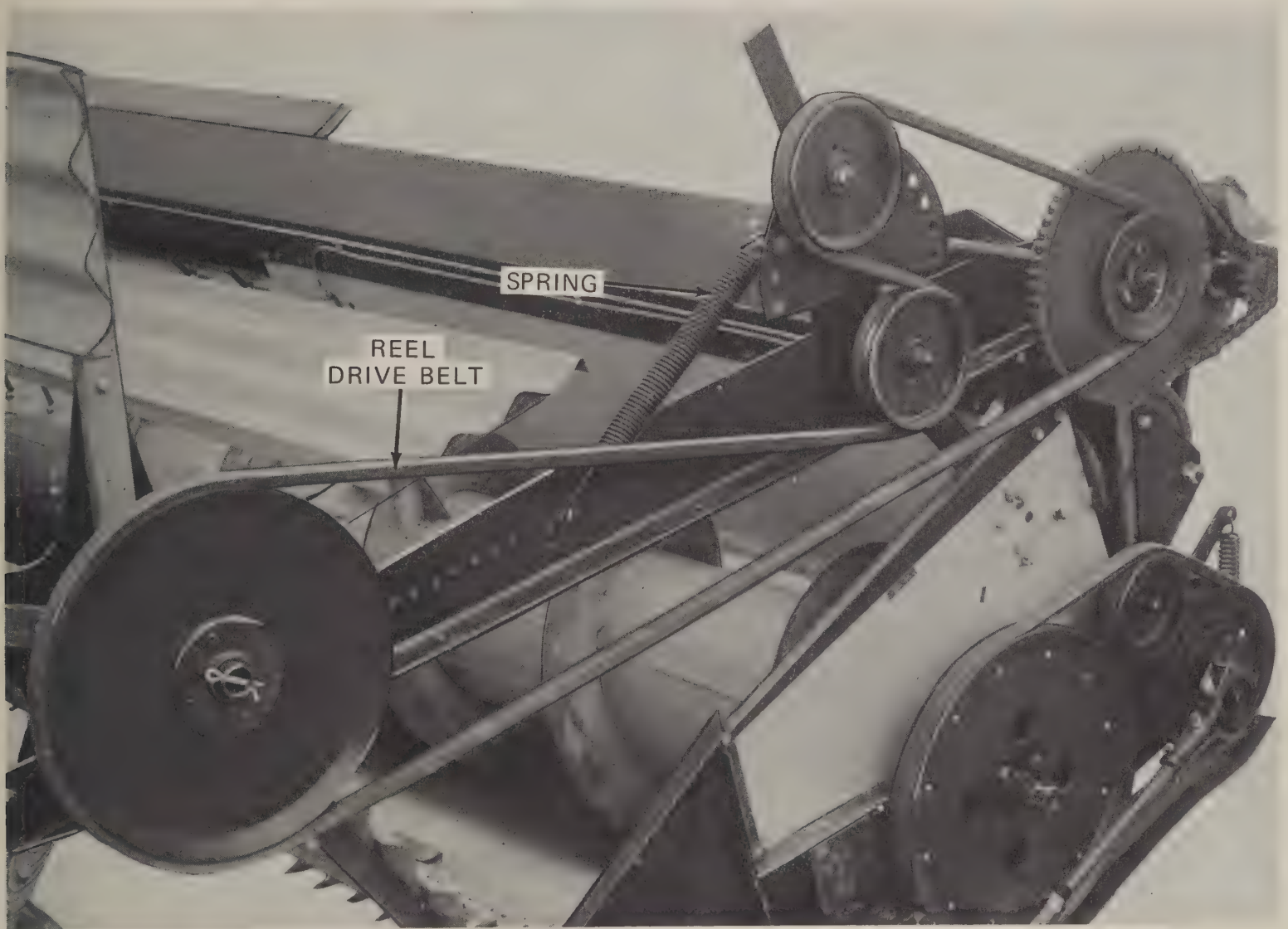


FIG. 16

REEL DRIVE BELT INSTALLATION on VARIABLE SPEED REEL DRIVE - Fig. 16

Install spring and reel drive belt as shown. To increase tension on belt, move eye of spring forward to next hole in L.H. reel support arm.

SETTING UP INSTRUCTIONS (Cont'd)

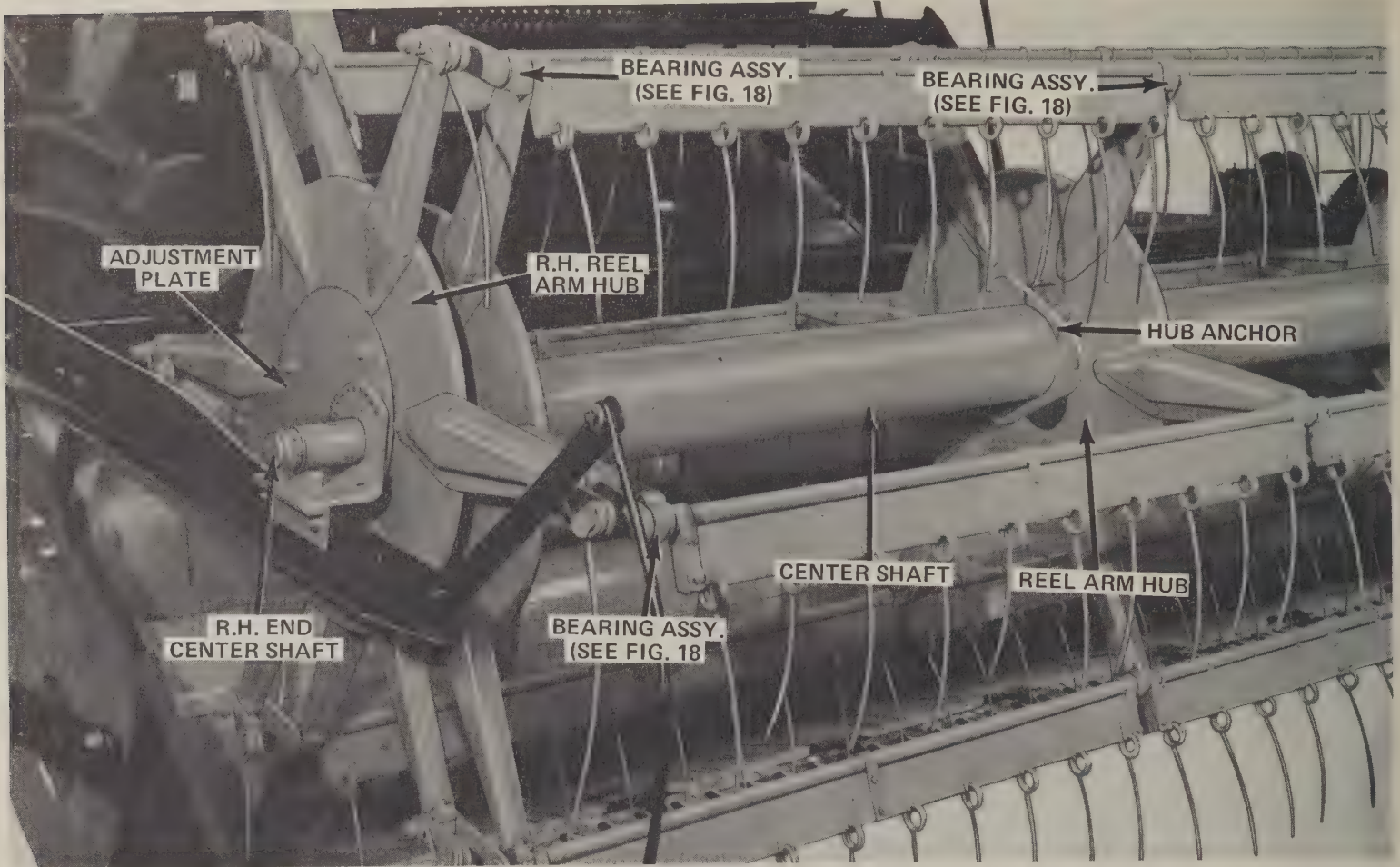


FIG. 17

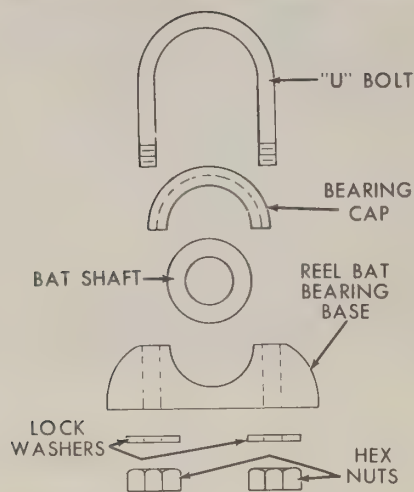


FIG. 18

PICK-UP REEL INSTALLATION - Fig. 17

Cut bundles apart. Separate hardware according to size. Leave all bolts loose until assembly is completed.

Bolt the flat surface of reel arm hubs to hub anchors on center shaft.

Figs. 17 & 18

Place the reel bat bearing bases on ends of reel arms. Set the shaft of reel bats into the bearing bases. Set the bearing caps over the reel bat shafts. Install "U" bolts and tighten.

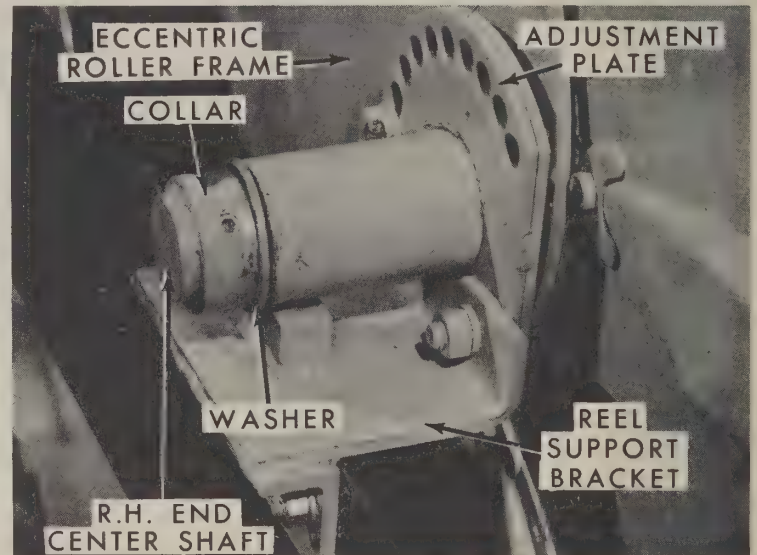


FIG. 19

FIGS. 17 & 19

Install two (2-1/4" O. D. x 2" I. D.) flat washers on R.H. end of center shaft and slide washer on shaft up against the R.H. reel arm hub.

Bolt the adjustment plate to the eccentric roller frame. Slide this assembly over R.H. end of center shaft. Place a (2-1/4" O. D. x 2" I. D.) washer on shaft. Slide collar over center shaft. Remove end play and tighten setscrews in collar. Bolt the reel support bracket to adjustment plate.

SETTING UP INSTRUCTIONS (Cont'd)

FIGS. 20 & 21

Install two (2-1/4" O.D. x 2" I.D.) flat washers on L.H. end of center shaft and slide washers up against the L.H. reel arm hub anchor.

Bolt the adjustment plate to the eccentric roller frame. Slide this assembly over L.H. end of center shaft. Place a (2-1/4" O.D. x 2" I.D.) washer on shaft. Slide collar over L.H. end of center shaft. Remove end play between parts on shaft and tighten setscrews in collar.

FIGS. 21 & 22

Bolt hub to inner side of sheave. Install key in L.H. end of center shaft. Slide hub over L.H. end of center shaft.

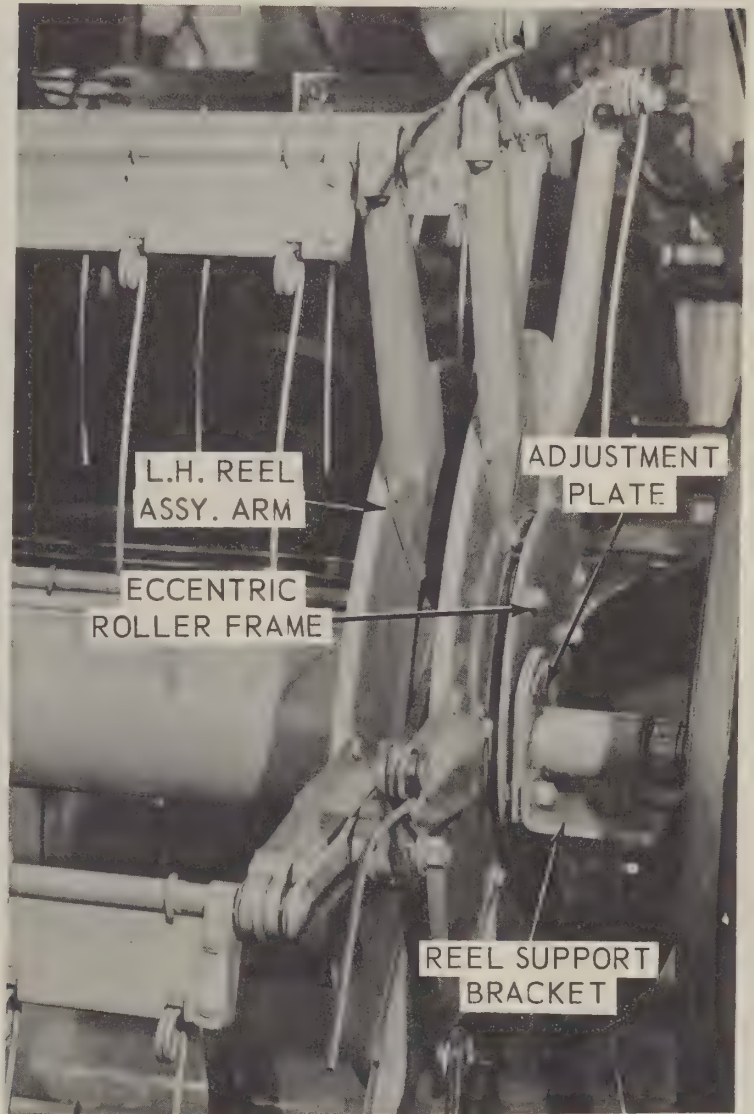


FIG. 20

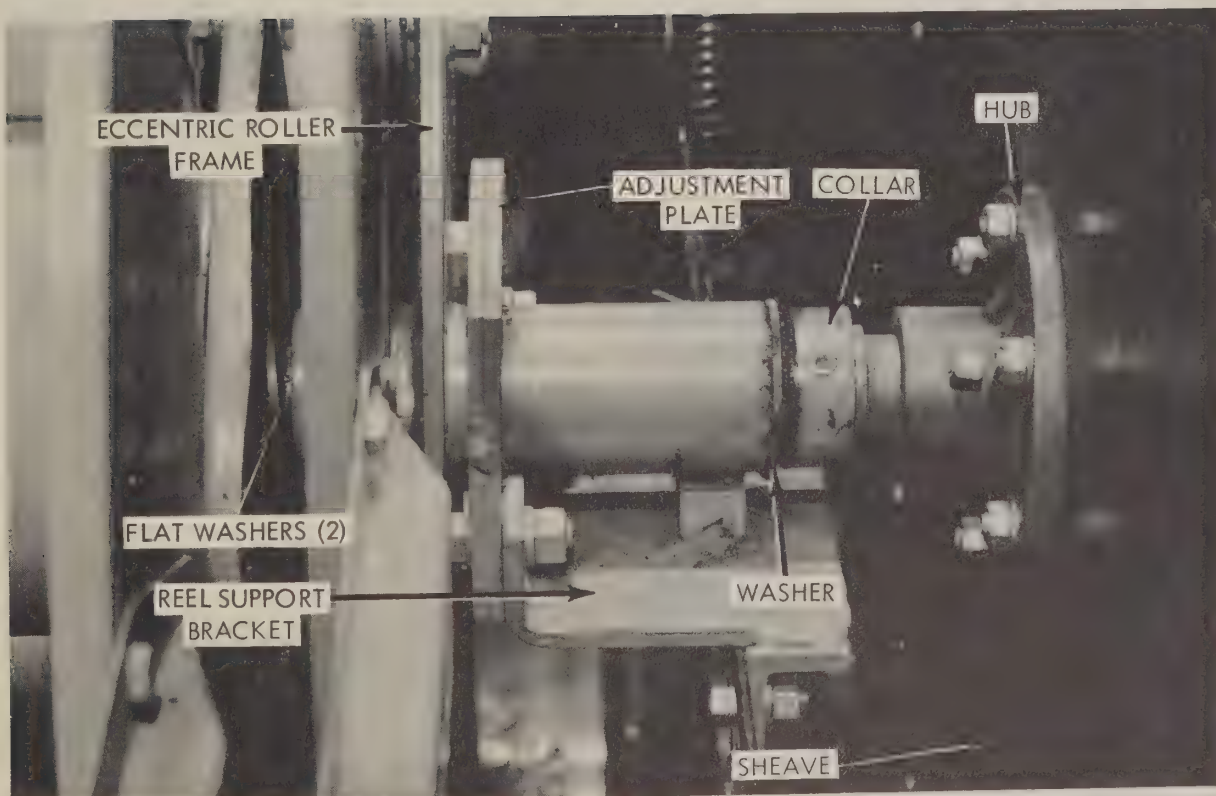


FIG. 21

SETTING UP INSTRUCTIONS (Cont'd)

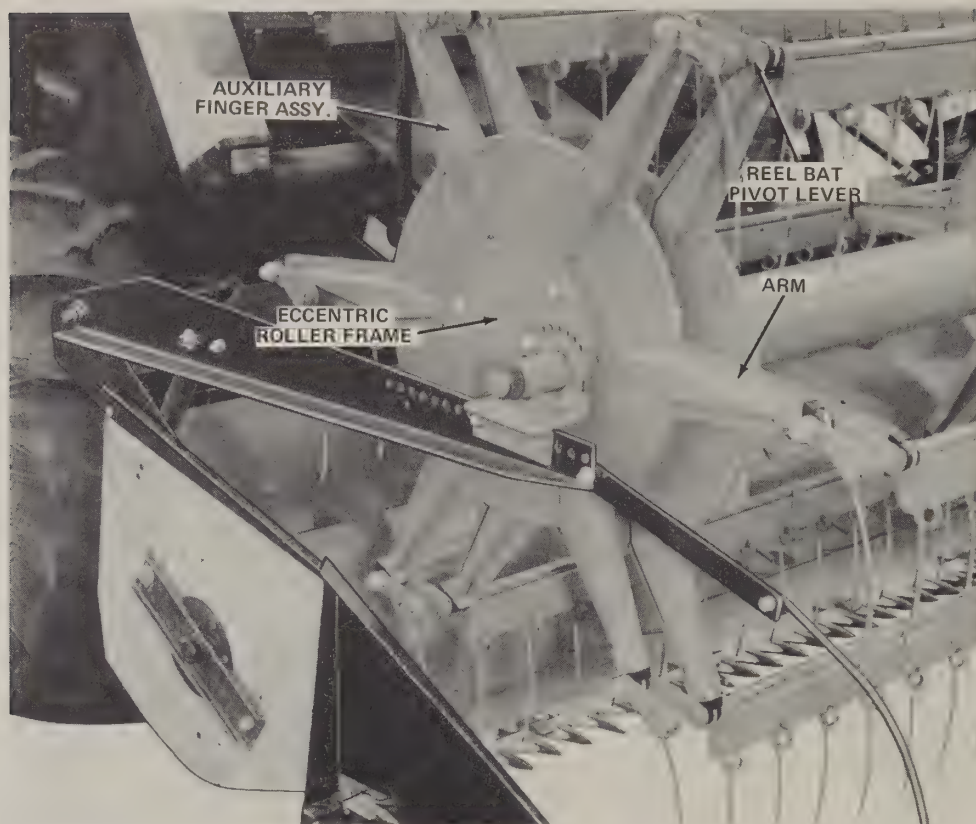


FIG. 22

Set the reel assembly upon the header and attach the reel support brackets to the reel support arms.

Install the belt, align sheaves and tighten set-screws in sheave hub.

FIG. 22

At each end of the reel, attach the arms on the

eccentric roller frame to the reel bat pivot levers. Install the bearing assembly and auxiliary finger assembly as shown.

When installation is complete, tighten all bolts. Be sure auxiliary fingers are in alignment with fingers on reel bats.

SETTING UP INSTRUCTIONS (Cont'd)

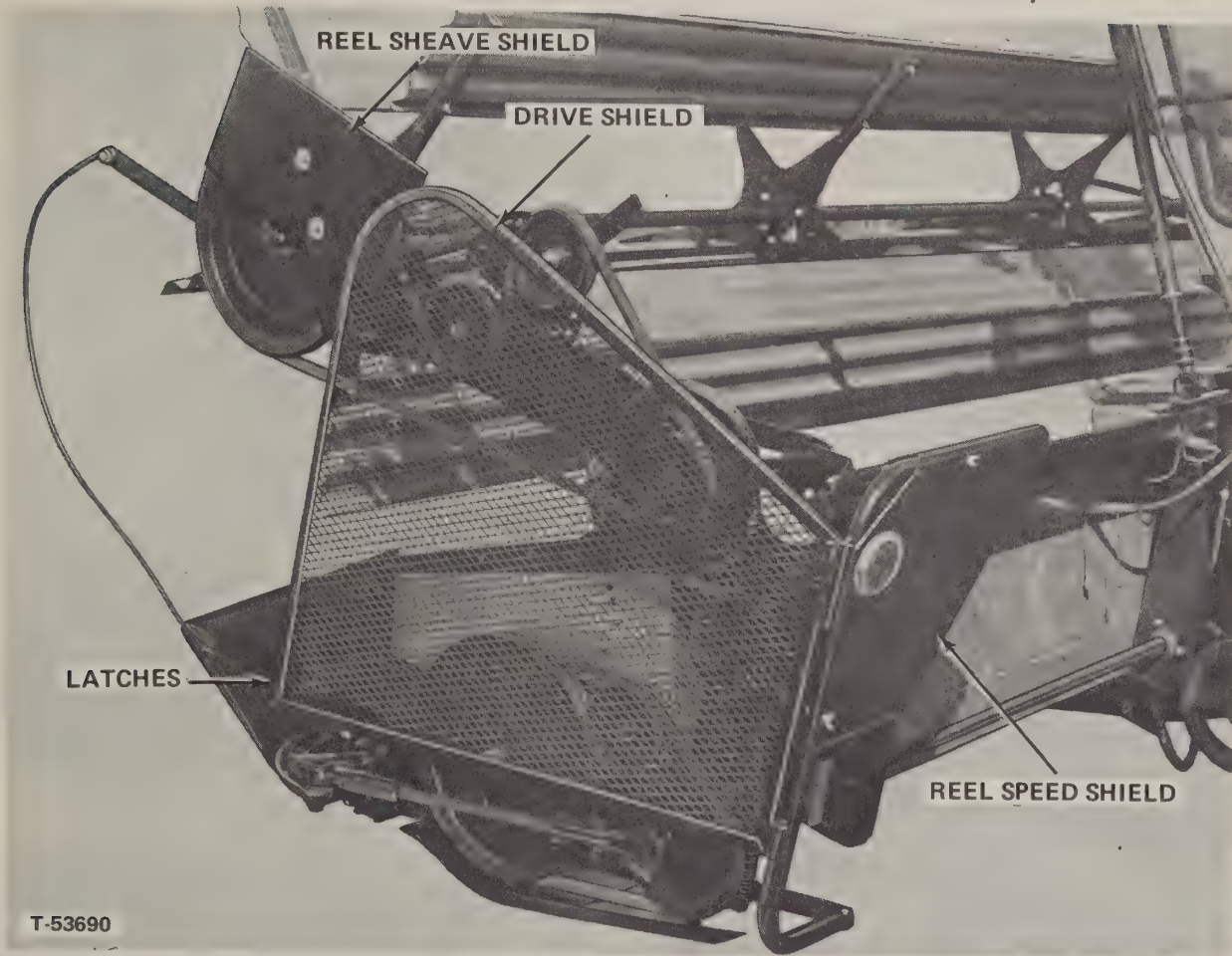


FIG. 23

REEL DRIVE SHIELDS (Figs. 23 & 24)

Fasten shield support at bottom to bearing bracket and at top to reel arm pivot bracket. Fasten reel sheave shield bracket to shield. Bolt shield assembly to reel support arm. Fasten reel variable speed drive shield with wing nuts to shield support. Hinge drive shield to shield support and fasten to header side with latches.



FIG. 24

SETTING UP INSTRUCTIONS (Cont'd)

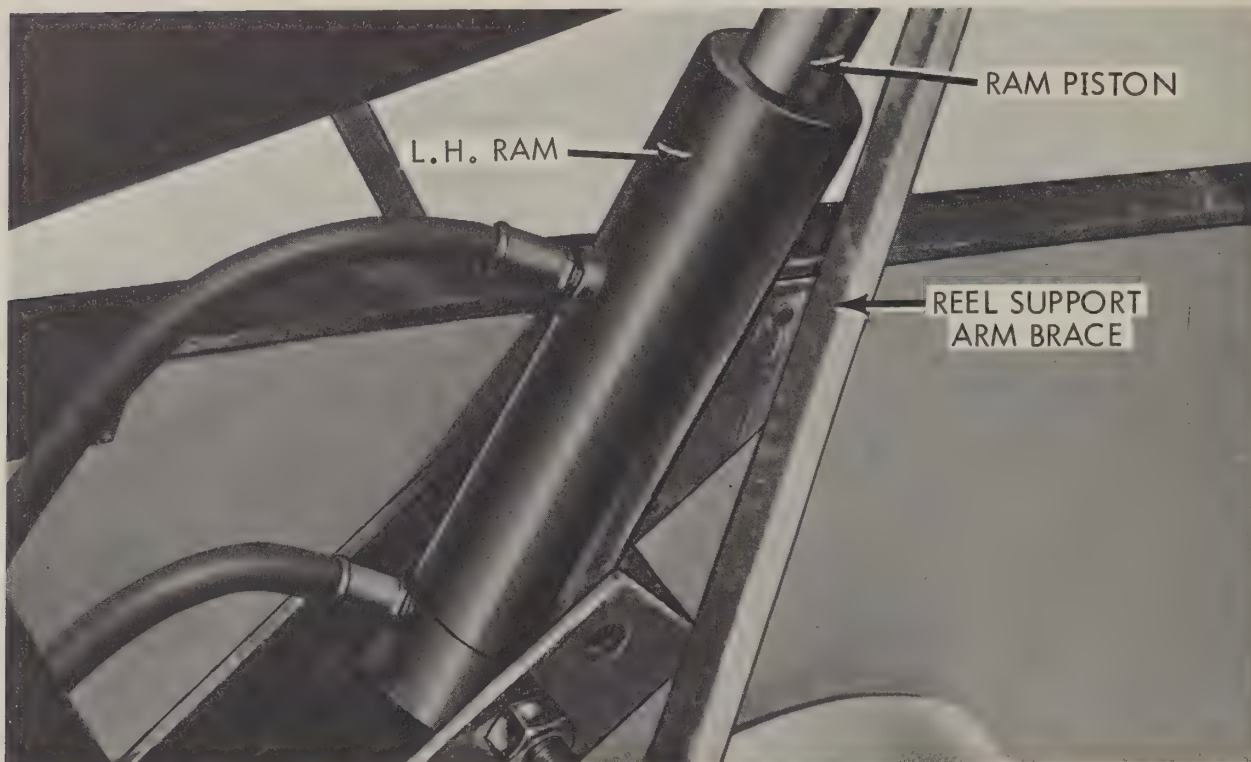


FIG. 25

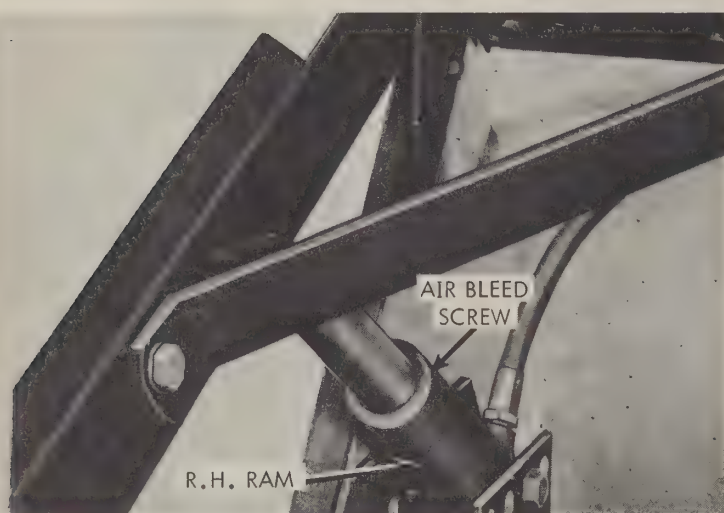


FIG. 26

TO FILL REEL LIFT RAMS WITH OIL AND BLEED AIR FROM SYSTEM - Figs. 25 & 26

The L.H. ram is double acting and has incorporated in it a rephasing feature or automatic self leveling device.

However, at time of set up it is necessary to fill the rams and lines with oil and at the same time eliminate air from the system.

The above is done after the header is attached and reel installed. To eliminate air open bleed screw located in R.H. single phase ram. Start engine and slowly raise reel until oil appears at bleed screw. Tighten screw and lower reel. Repeat procedure until all air is expelled from system.

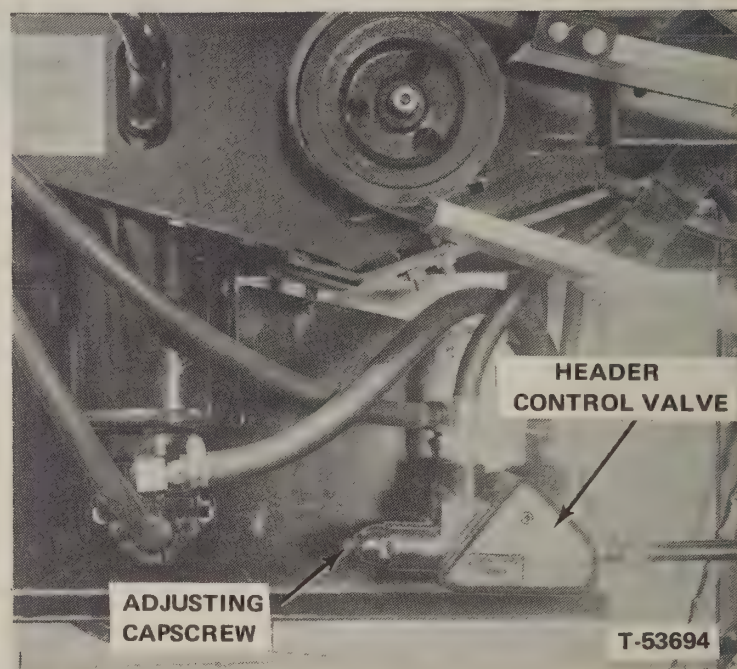


FIG. 27

HEADER HYDRAULIC CONTROL VALVE
Fig. 27

With reel or pick-up installed on header, operate header up and down several times. If header lowers too slow or too fast, amount of return oil flow from rams must be changed. Flow of oil from rams is controlled by adjusting cap-screw at rear of header hydraulic control valve. To decrease flow and decrease speed of header lowering, loosen locknut and turn cap screw in until desired header speed is obtained. Make this adjustment when oil is warm.

SETTING UP INSTRUCTIONS (Cont'd)

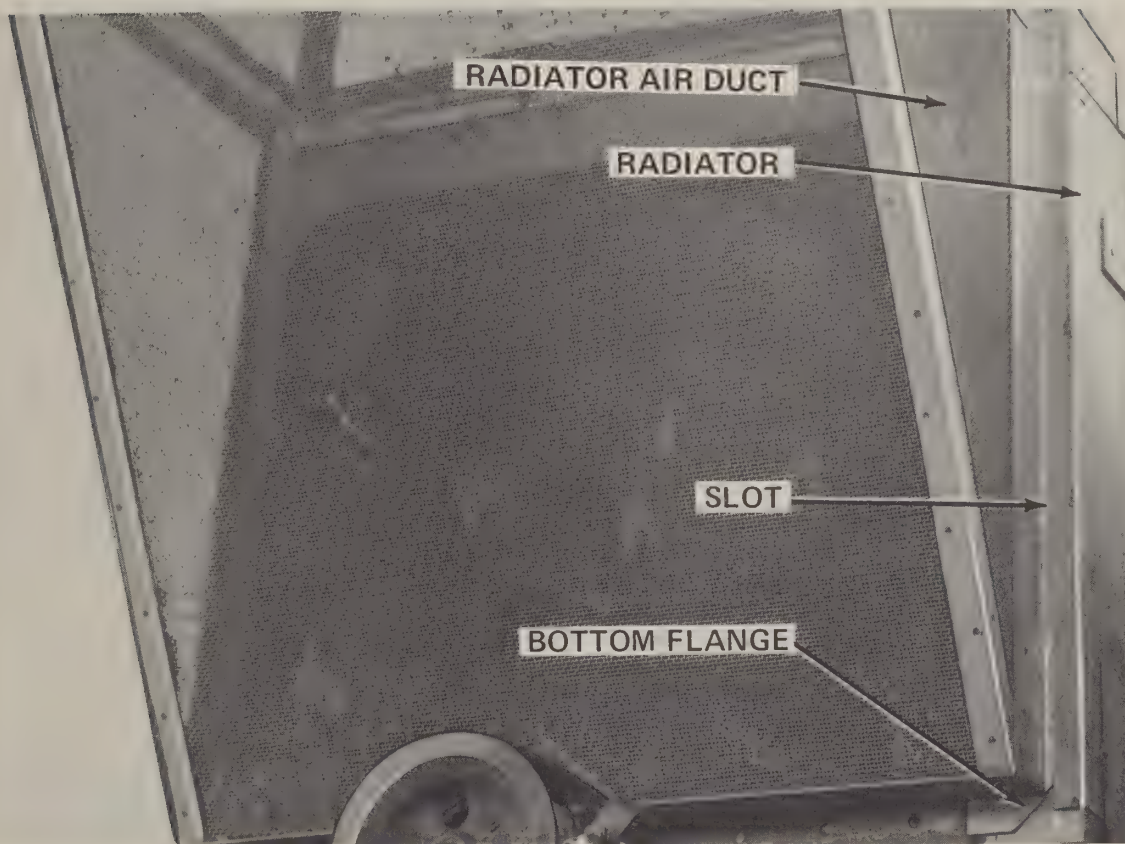


FIG. 28

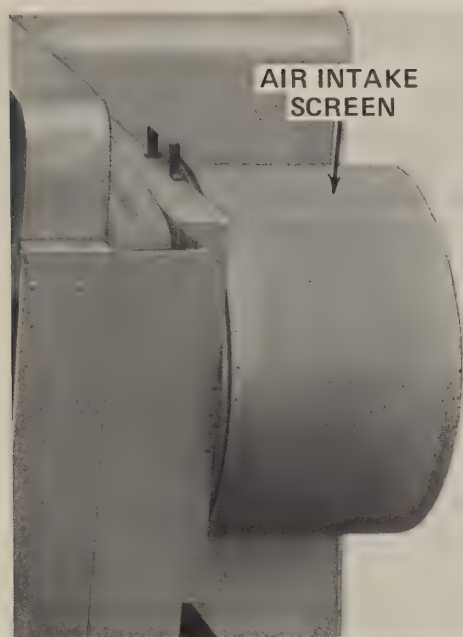


FIG. 29

RADIATOR AIR DUCT - Fig. 28

Slide flanges on air duct into slots at sides and bottom of radiator, make sure bottom flange on duct is seated in bottom slot of radiator.

RADIATOR AIR INTAKE SCREEN - Fig. 29 (Optional Equipment)

Slide flanges on air intake screen into slots

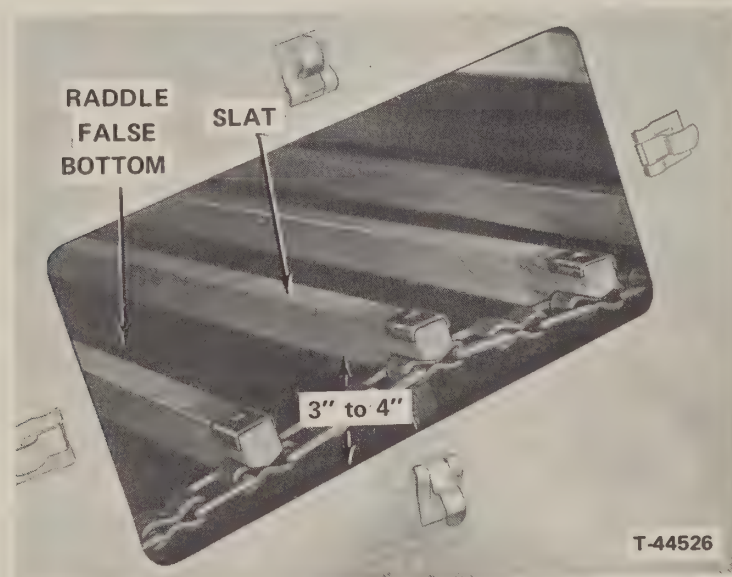


FIG. 30

at sides and bottom of radiator, make sure bottom flange on screen is seated in bottom slot of radiator.

GENERAL PRE-DELIVERY SERVICE

Check all chains and drive belts for proper adjustment. Instruct owner to check belts and chains every hour during initial operation.

Refer to engine information at front of the manual for valve clearances.

SETTING UP INSTRUCTIONS (Cont'd)

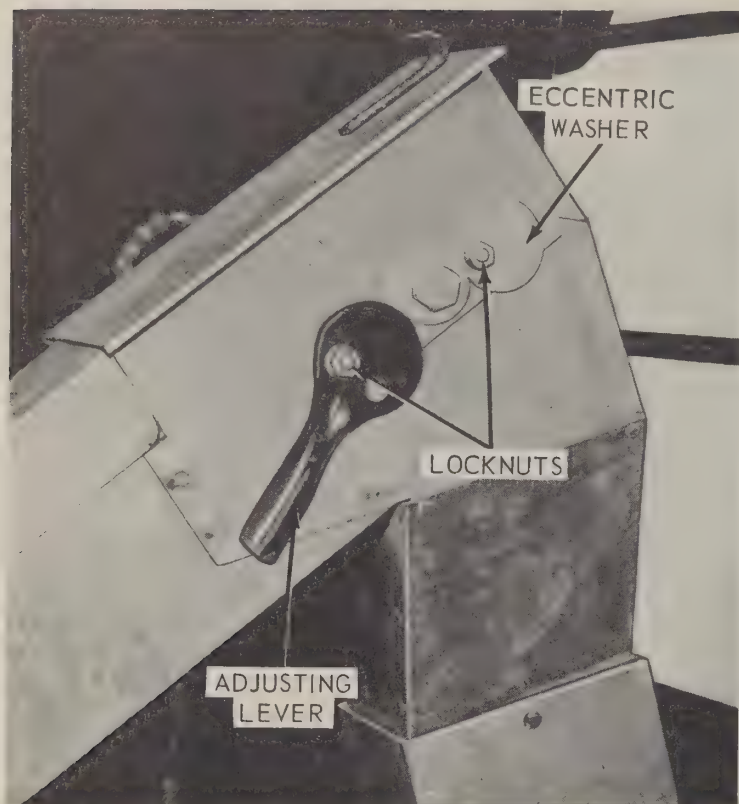


FIG. 31

RADDLE CHAIN - Fig. 30

Adjust tension of raddle chain, so that there is no less than 3" or no more than 4" clearance between bottom of slat and false bottom. Check tension by lifting slat as near to center of false bottom as possible.

To adjust chain, loosen R.H. and L.H. take-up bracket bolts and tighten nuts on adjusting bolts.

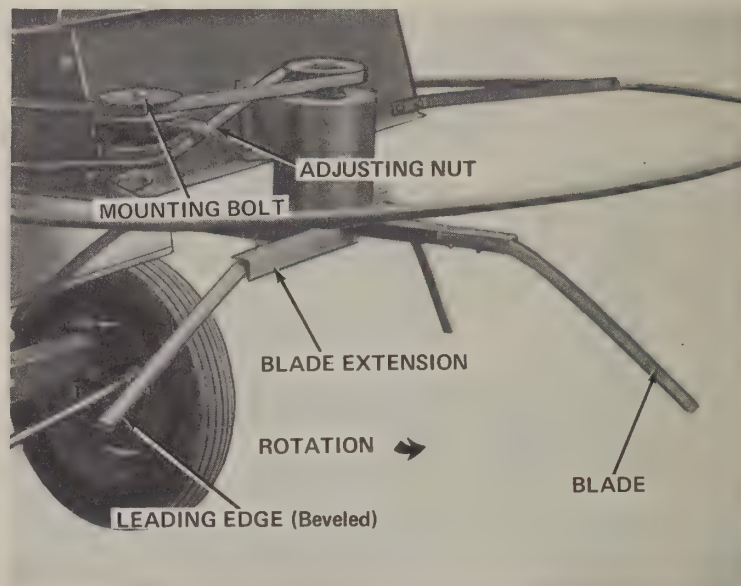


FIG. 31A

ELEVATOR CHAINS - Fig. 31

Loosen locknuts on lever, shaft and eccentric washer. (It is necessary to loosen idler at top of clean grain elevator). Turn both adjusting levers evenly until chain is snug. Tighten locknuts, if necessary reset idler.

STRAW SPREADER - Fig. 31A

Install the spreader as shown in Fig. 31A. Tighten the idler so that the belt will not slip. The spreader rotates in a counter-clockwise direction. Be sure the beveled edge of the blade is the leading edge.

GENERAL PRE-DELIVERY SERVICE

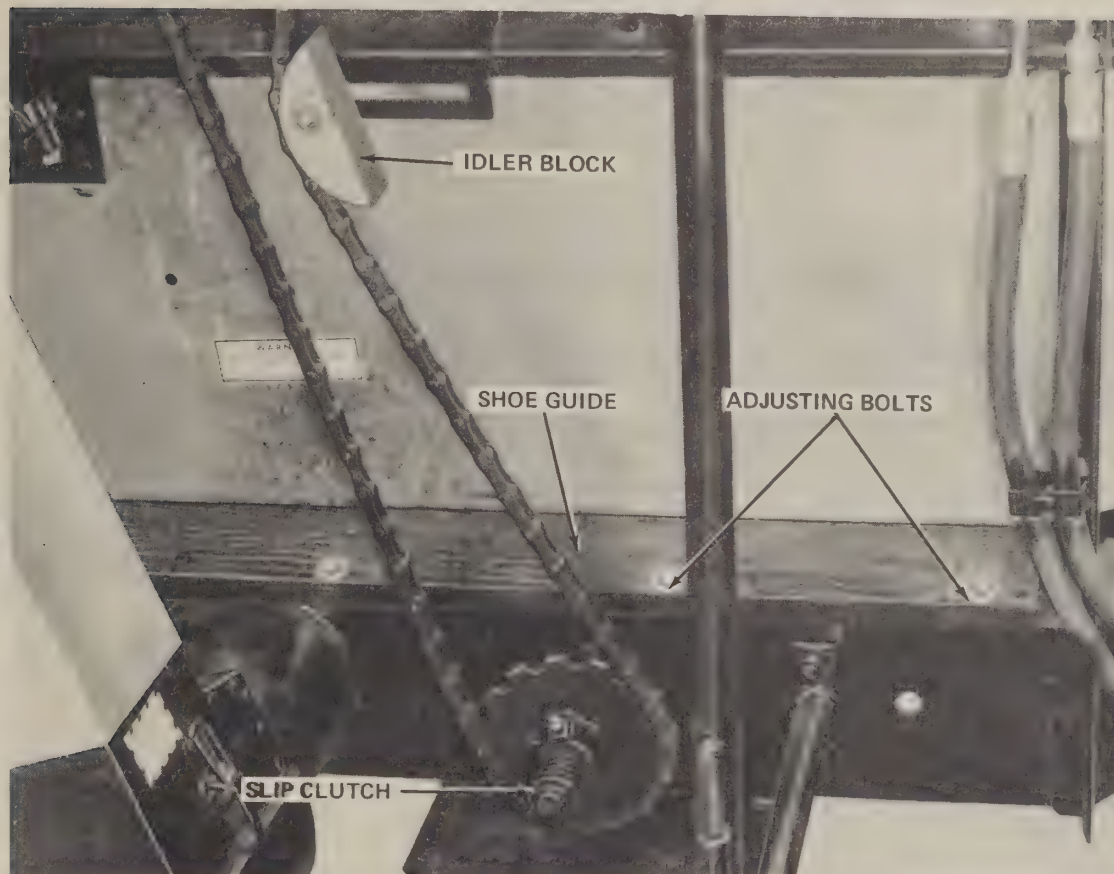


FIG. 32

SHOE GUIDES - Fig. 32

To prevent binding of shoe guides against side of shoe L.H. and R.H. guides should be positioned so there is 1/64" clearance between guide and shoe side. Loosen three guide bracket attaching

nuts and move guide in or out. Tighten attaching nuts.

SLIP CLUTCHES - Fig. 32

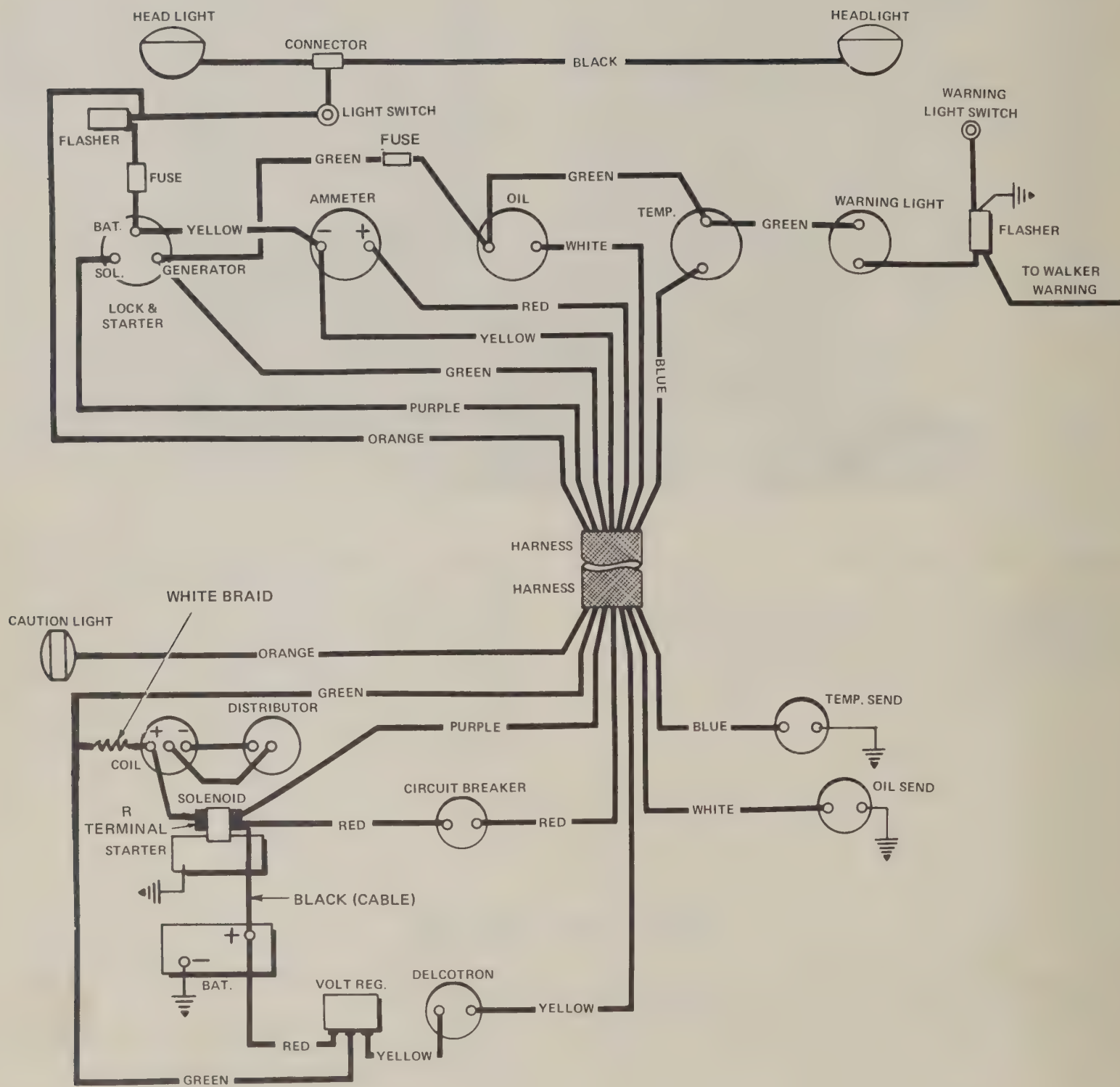
Check all slip clutches for freedom of movement.

BREAK IN PERIOD

Start engine, engage separator clutch, increase speed to half throttle and operate for about one half hour. At that time check combine bearings for heating, chains and belts for tension and

alignment. Run combine for another half hour and repeat check.

If machine is to be stored before harvest, tension should be removed from all belts.

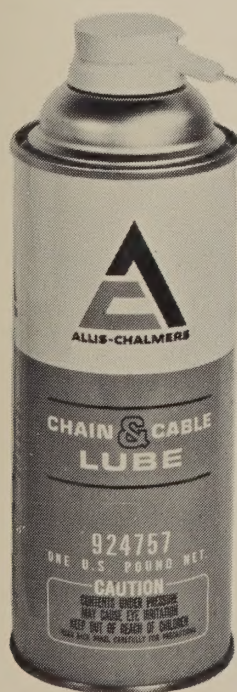


Wiring Diagram (Gas)



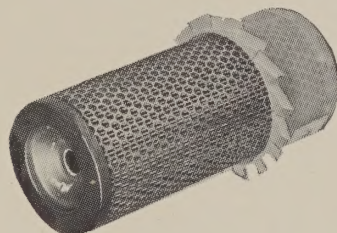
RUST PREVENTIVE

Just a spray of Allis-Chalmers Rust Preventive gives full protection to your equipment. Special additives and compounds seal out moisture. Oxidation is inhibited. The film coat protects metal up to a year or more. Ideal for all equipment from plows to combines.



Quality Parts

PROTECT YOUR EQUIPMENT



AIR CLEANER ELEMENTS

It takes an air cleaner with outstanding dust-extracting ability to give full engine protection. That's why it's important to use only Allis-Chalmers Cleaners. These highly efficient elements remove over 99% of air-borne dust—permit the proper amount of air (as determined by Allis-Chalmers Engineers) to flow to carburetor or fuel injector. Using another cleaner can easily upset the air-fuel ratio. Result—inefficient combustion . . . poor engine performance.

CHAIN & CABLE LUBE

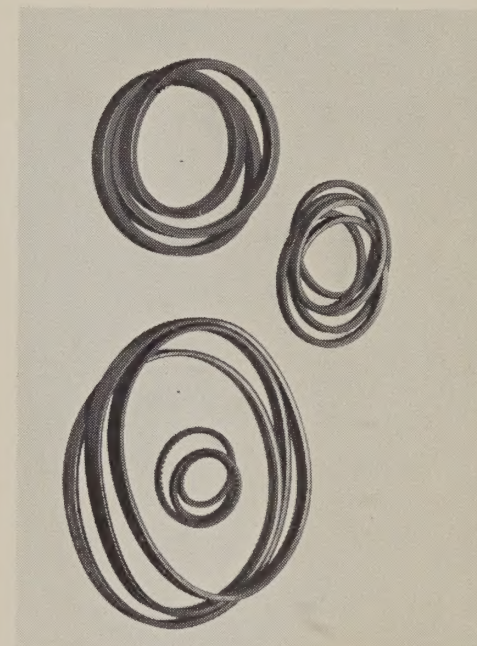
Allis-Chalmers New Chain & Cable Lube . . . the fast, convenient way to prolong chain and cable life!

1. Extension for reaching into hard-to-get places . . . concentrates the spray and keeps it where you want it.
2. Applies with uniform consistency to provide maximum lubrication without waste.
3. Always ready, always right — Lube is held permanently in suspension by a non-flammable diluent. It does not settle out, therefore shaking is not necessary.
4. Leaves no sticky residue to collect abrasive dust and dirt.
5. Spill-proof — an important advantage over old-fashioned oil can and paint brush lubricating methods that can lead to spillage in harmful places. It's economical, too.



ENGINE and HYDRAULIC OIL FILTERS

The importance of removing all contaminants from engine lubricants cannot be overemphasized. Using any filter that just happens to fit robs your equipment of the best years of its life. Allis-Chalmers filters with finest filtering media, give positive contaminant control. They remove maximum dirt from oil while permitting active additives to remain. You know you have the correct flow rate, proper pressures and balanced filtering.



BELTS

You get the right power transmission at recommended harvesting speeds with genuine Allis-Chalmers V-Belts. Each is designed and constructed to fit a specific job exactly. Each belt is matched to driving speeds, horsepower requirements, shock loads, etc. Insist on Allis-Chalmers V-Belts.



**INSIST ON GENUINE
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